PROJECT REPORT

ON
Bill Desk
At
Sansoft Infotech

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Introduction:

This system is named as Bill Desk . This system is made to keep the records about the bills of the customers. The admin can manage all the accounts and the registered users like employees and customers can only manage their own accounts.
This system helps in maintaining the bills and the payments. A different module is there for employees to check the customer's details if their job requires it. Admin, employees, and customers all have a different interface and different privileges according to their needs.
Like a customer can only manage his account and cannot see any details of other customers, employees can see the details of all the customer's accounts and the admin can manage all the accounts including the customers and employees' accounts. This system also has the option for customers to pay by using digital payment.
Either through internet banking . This system also has the feature to add and delete customer and employee's accounts in case a customer wants to cut the connection or an employee wants to leave the job. All the employees are divided into different departments according to their job profile and the customers are divided according to their wards.

Objective:

The main objective of the Project on Electricity Billing System is to manage the details of Customer, Bill, Connection, Electricity, Payment. It manages all the information about Customer, Bill Receipt, Payment, Customer. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Customer, Bill, Bill Receipt, Connection. It tracks all the details about the Connection, Electricity, Payment.

Company profile :

Sansoft Infotech is an Indian Software Outsourcing and Offshore Development Company. Sansoft Infotech is a rapidly growing software company with a team of experienced intellectuals working in various technologies. It deals with Products and Service based applications. We are committed to the qualitative, efficiency ,innovativenes and of our deliverables with high focus on maximum customer satisfaction.

Sansoft Infotech is a high end full service IT solution Company based in India. Established in 2007, we are pioneer in providing total onshore and onshore web based solutions.

for small to large corporate companies. Today we are comprised of a programming technicians, designers, and marketing executives- selectively chosen to lead our clients in their IT solutions.

Sansoft Infotech provides IT consultation and services to clients globally – as partners to realize technology driven business transformation initiatives. Over the years, NEWGEN has grown from strength to strength in both our business and software Solutions arena. From our It Consulting as well as Custom application Development, web Development and E-commerce all of which help our customers with their diverse yet demanding needs. Sansoft Infotech provides end-to-end business solutions that leverage technology. We are geared towards business value to the companies by providing by expertise personal and software services.

Area of Expertise :

- Customized Software Development
- Offshore Development Center
- Web Hosting & Domain Registration
- Web Development And Web Design
- Search Engine Optimization

- Web Promotions(Internet Marketing)
- E-Commerce Application Development
- Software Testing
- IT Training
- ERP Solutions
- SAP Implementing and many other scalable business solutions for B2B, B2C and B2E

Technologies :

Sansoft Infotech is well trained, equipped and customer friendly. We have a process that takes us from your inquiry to your finished products and beyond:

- We conducts a Needs Analysis. We ask questions and pay attention to the answers. We want to understand your audience and your competition.
- We identify any backend programming needs.
- We begin your projects when both requirements and costs have been approved by you.
- We offer a choice of designs, including suggested content, for your approval.
- When the final design has been approved and the application is ready, we begin our Quality assurance program.
- We conduct bug check and broken links checks..
- When your application complies with projects objectives and has passed all Quality Assurance Checks, we launch or deploy your application.
- We provide Internet Consulting, Web Development, Web Design, Branding, system Integration, ERP Solutions, SAP Implementation and many other scalable business solutions for B2B, B2C, B2E.
- Our expertise is in Training, Software Development and Services, Contract and Full Time Placement, and Outsourcing Services

Vision:

"To be the world's recognized Software Company with the best lifetime performance and to design success path for each and every industry's growth and progress."

Mission:

" To provide intelligent software concept's in desktop and customized applications for each and every industry vertical."

Slogan: You Think IT, We Develop IT.

E-mail: hr@newsaninfotech.com

Existing System:

The old manual system was suffering from a series of drawbacks. Since whole of the system was to be maintained with hands the process of keeping, maintaining and retrieving the information was very tedious and lengthy. The records were never used to be in a systematic order. there used to be lots of difficulties in associating any particular transaction with a particular context. If any information was to be found it was required to go through the different registers, documents there would never exist anything like report generation. There would always be unnecessary consumption of time while entering records and retrieving records. One more problem was that it was very difficult to find errors while entering the records. Once the records were entered it was very difficult to update these records.

The reason behind it is that there is lot of information to be maintained and have to be kept in mind while running the business .For this reason we have provided features Present system is partially automated (computerized), actually existing system is quite laborious as one has to enter same information at three different places.

Need for System :

- Documents and reports that must be provided by the new system: there can also be few reports, which can help management in decision-making and cost controlling, but since these reports do not get required attention, such kind of reports and information were also identified and given required attention.
- Details of the information needed for each document and report.
- The required frequency and distribution for each document.
- Probable sources of information for each document and report.
- With the implementation of computerized system, the task of keeping records in an organized manner will be solved. The greatest of all is the retrieval of information, which will be at the click of the mouse. So the proposed system helps in saving the time in different operations and making information flow easy giving valuable reports.

Scope of Work :

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Electricity Billing System. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Business process automation, i.e. we have tried to computerize various processes of Electricity Billing System.

- In computer system the person has to fill the various forms & number of copies of the forms can be easily generated at a time.
- In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.
- To assist the staff in capturing the effort spent on their respective working areas.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system generates types of information that can be used for various purposes.
- It satisfy the user requirement
- Be easy to understand by the user and operator
- Be easy to operate
- Have a good user interface
- Be expandable
- Delivered on schedule within the budget.

Operating Environment – Hardware and Software:

Software:

Technology : JAVA

Front- End : Netbeans

Back-end : MYSQL

Hardware :

Processor : Intel core i3 or More

RAM : 512mb and more

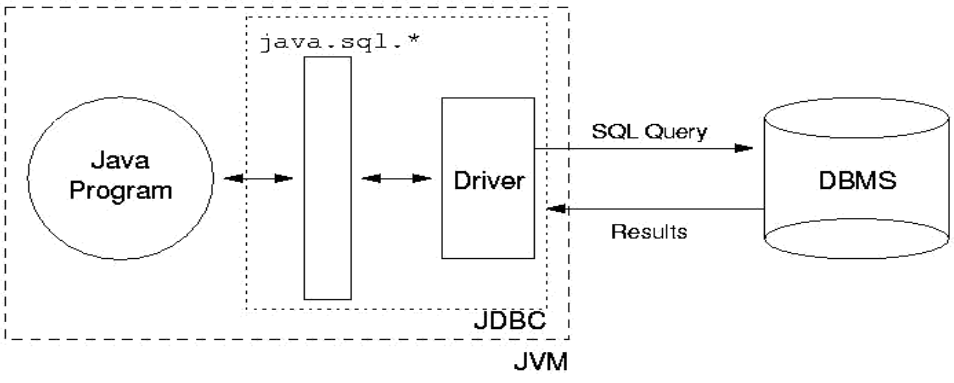
Detail Description of Technology Used:

1. **JAVA:**

Java is a general-purpose, object-oriented programming language developed by Sun Microsystems of USA in 1991.Originally called Oak by James Gosling (one of the inventor of the language). Java was invented for the development of software for cunsumer electronic devices like TVs, tosters, etc. The main aim had to make java simple, portable and reliable. Java Authors: James , Arthur Van , and others. Java is a high-level, third generation programming language, like C, FORTRAN, Smalltalk, Perl, and many others. You can use Java to write computer applications that play games, store data or do any of the thousands of other things computer software can do. Compared to other programming languages, Java is most similar to C. However although Java shares much of C's syntax, it is not C. Knowing how to program in C or, better yet, C++, will certainly help you to learn Java more quickly, but you don't need to know C to learn Java. A Java compiler won't compile C code, and most large C

programs need to be changed substantially before they can become Java programs. What's most special about Java in relation to other programming languages is that it lets you write special programs called applets ,web project etc. that can be downloaded from the Internet and played safely within a web browser. Java language is called as an Object-Oriented Programming language and before beginning for Java, we have to learn the concept of OOPs(Object-Oriented Programming).

JDBC DRIVER MODEL



In the commercial world, we use Java 2 Enterprise Edition (J2EE) to solve business problems, to develop commercial software, or to provide contract services to other businesses' projects. If a company wants to build an e-business Website using a multitier architecture, it usually involves managers, architects, designers, programmers, testers, and database experts throughout the development lifecycle

NET BEANS :

NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called *modules*. NetBeans runs on Windows, macOS, Linux and Solaris. In addition to Java development, it has extensions for other languages like PHP, C, C++, HTML5,and JavaScript. Applications based on NetBeans, including the NetBeans IDE, can be extended by third party developers.

NetBeans began in 1996 as Xelfi (word play on *Delphi*), a Java IDE student project under the guidance of the Faculty of Mathematics and Physics at Charles University in Prague. In 1997, Roman Staněk formed a company around the project and produced commercial versions of the NetBeans IDE until it was bought by Sun Microsystems in 1999. Sun open-sourced the NetBeans IDE in June of the following year. Since then, the NetBeans community has continued to grow. In 2010, Sun (and thus NetBeans) was acquired by Oracle Corporation. Under Oracle, NetBeans had to find some synergy with JDeveloper, a freeware IDE that has historically been a product of the company, by 2012 both IDEs were rebuilt around a shared codebase - the NetBeans Platform. In September 2016, Oracle submitted a proposal to donate the NetBeans project to the Apache Software Foundation, stating that it was "opening up the NetBeans governance model to give NetBeans constituents a greater voice in the project's direction and future success through the upcoming release of Java 9 and NetBeans 9 and beyond". The move was endorsed by Java creator James Gosling. The project entered the Apache Incubator in October 2016.

NetBeans IDE is an open-source integrated development environment. NetBeans IDE supports development of all Java application types (Java SE (including JavaFX), Java ME, web, EJB and mobile applications) out of the box. Among other features are an Ant-based project system, Maven support, refactorings, version control (supporting CVS, Subversion, Git, Mercurial and Clearcase).

Modularity: All the functions of the IDE are provided by modules. Each module provides a well-defined function, such as support for the Java language, editing, or support for the CVS versioning system, and SVN. NetBeans contains all the modules needed for Java development in a single download, allowing the user to start working immediately. Modules also allow NetBeans to be extended. New features, such as support for other programming languages, can be added by installing

additional modules. For instance, Sun Studio, Sun Java Studio Enterprise, and Sun Java Studio Creator from Sun Microsystems are all based on the NetBeans IDE.
License: The IDE is licensed under the Apache License 2.0. Previously, from July 2006 through 2007, NetBeans IDE was licensed under Sun's Common Development and Distribution License (CDDL), a license based on the Mozilla Public License (MPL). In October 2007, Sun announced that NetBeans would henceforth be offered under a dual license of the CDDL and the GPL version 2 licenses, with the GPL linking exception for GNU Class path Oracle has donated NetBeans Platform and IDE to the Apache Foundation where it underwent incubation and graduated as a top level project in April 2019.

MYSQL:

MySQL is the world's most used open source relational database management system (RDBMS) as of 2008 that runs as a server providing multi-user access to a number of databases.The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python." Free-software-open source projects that require a full-featured database management system often use MySQL.

Interfaces

MySQL is a relational database management system (RDBMS), and ships with no GUI tools to administer MySQL databases or manage data contained within the databases. Users may use the included command line tools, or use MySQL "front-ends", desktop software and web applications that create and manage MySQL databases, build database structures, back up.

Proposed System:

- System needs store information about new entry of Customer.
- System needs to help the internal staff to keep information of Bill and find them as per various queries.
- System need to maintain quantity record.
- System need to keep the record of Connection.
- System need to update and delete the record.
- System also needs a search area.
- It also needs a security system to prevent data.

- Hence, the conventional electricity billing system is uneconomical, requires many staffs to do simple jobs and is a lengthy process overall.
- In order to solve this lengthy process of billing, a web based computerized system is essential.
- This proposed electricity billing system project overcomes all these drawbacks with the features.
- It is beneficial to both consumers and the company which provides electricity.With the new system, there is reduction in the number of staffs to be employed by the company.
- The working speed and performance of the software is faster with high performance which saves time.
- Furthermore, there is very little chance of miscalculation and being corrupted by the staffs.

Objective:

- The main objective of the Project on Electricity Billing System is to manage the details of Customer, Bill, Connection, Electricity, Payment. It manages all the information about Customer, Bill Receipt, Payment, Customer.
- The project is totally built at administrative end and thus only the administrator is guaranteed the access.
- The purpose of the project is to build an application program to reduce the manual work for managing the Customer, Bill, Bill Receipt, Connection. It tracks all the details about the Connection, Electricity, Payment.
- To develop an deskstop based application to manage electrical billing for theadministrator and customer.
- To collect the power consumption information and integrate withcentralized database system
- To calculate the electrical bill and generate a report on the powerconsumption information .

User Requirements :

Functional Requirements

- In software engineering, a functional requirement defines a function of a software system or its component**.**
- A function is described as a set of inputs, the behavior, and outputs
- Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish. Behavioural requirements describing all the cases where the system uses the functional requirements are captured in use cases
- Functional requirements are supported by non-functional requirements (also known as quality requirements), which impose constraints on the design or implementation (such as performance requirements, security, or reliability).
- Generally, functional requirements are expressed in the form "system must do <requirement>", while non-functional requirements are "system shall be <requirement>". The plan for implementing *functional* requirements is detailed in the system *design*. The plan for implementing *non-functional* requirements is detailed in the system *architecture*.

- As defined in requirements engineering, functional requirements specify particular results of a system. This should be contrasted with non-functional requirements which specify overall characteristics such as cost and reliability. Functional requirements drive the application architecture of a system, while non-functional requirements drive the technical architecture of a system.

Non Functional Requirements

➢ Product Requirements

❖ Usability requirements

Usability is the ease of use and learns ability of a human-made object. The object of use can be a software application, website, book, tool, machine, process, or anything a human interacts with. A usability study may be conducted as a primary job function by a usability analyst or as a secondary job function by designers, technical writers, marketing personnel, and others. Usability includes methods of measuring usability, such as needs analysis and the study of the principles behind an object's perceived efficiency or elegance. In human-computer interaction and computer science, usability studies the elegance and clarity with which the interaction with a computer program or a web site (web usability) is designed. Usability differs from user satisfaction and user experience because usability also considers usefulness.

❖ Reliability requirements

Reliability deals with the study, evaluation, and life-cycle management of reliability: the ability of a system or component to perform its required functions under stated conditions for a specified period of time. Reliability engineering is a sub-discipline within systems engineering. Reliability is theoretically defined as the probability of failure, the frequency of failures, or in terms of availability, a probability derived from reliability and maintainability. Maintainability and maintenance may be defined as a part of reliability engineering. Reliability plays a key role in cost-effectiveness of systems.

❖ Portability requirements

Portability in high-level computer programming is the usability of the same software in different environments. The prerequirement for portability is the generalized abstraction between the application logic and system interfaces. When software with the same functionality is produced for several computing platforms, portability is the key issue for development cost reduction.

- Transferring installed program files to another computer of basically the same architecture.
- Reinstalling a program from distribution files on another computer of basically the same architecture.

❖ Efficiency requirements

Resource consumption for given load describes efficiency of product and web site.

❖ Performance requirements

Performance metrics include availability, response time, channel capacity, latency, completion time, service time, bandwidth, throughput, relative efficiency, scalability, performance per watt, compression ratio, instruction path length and speed up**.**

- Short response time for a given piece of work
- High throughput (rate of processing work)
- Low utilization of computing resource(s)
- High availability of the computing system or application
- Fast (or highly compact) data compression and decompression
- High bandwidth / short data transmission time

➢ Organisational Requirements

❖ Delivery requirements

Delivery requirements include details of delivery of product on time and as per client requirements. The products should be delivered on prescribed standard.

❖ Implementation requirements

Implementation is the realization of an application, or execution of a plan, idea, model, design, specification, standard, algorithm, or policy.

an implementation is a realization of a technical specification or algorithm as a program, software component, or other computer system through programming and deployment. Many implementations may exist for a given specification or standard.

❖ Standard requirements

The project should be developed as per standard format specified by IEEE.

Typical platforms include a computer architecture, operating system, programming languages and related user interface. The product should be developed as per client's standard requirements.

➢ **External Requirements**

❖ **Interoperability requirements**

Interoperability is a property of a product or system, whose interfaces are completely understood, to work with other products or systems, present or future, without any restricted access or implementation. The IEEE Glossary defines interoperability as:

the ability of two or more systems or components to exchange information and to use the information that has been exchanged

❖ **Legislative requirements**

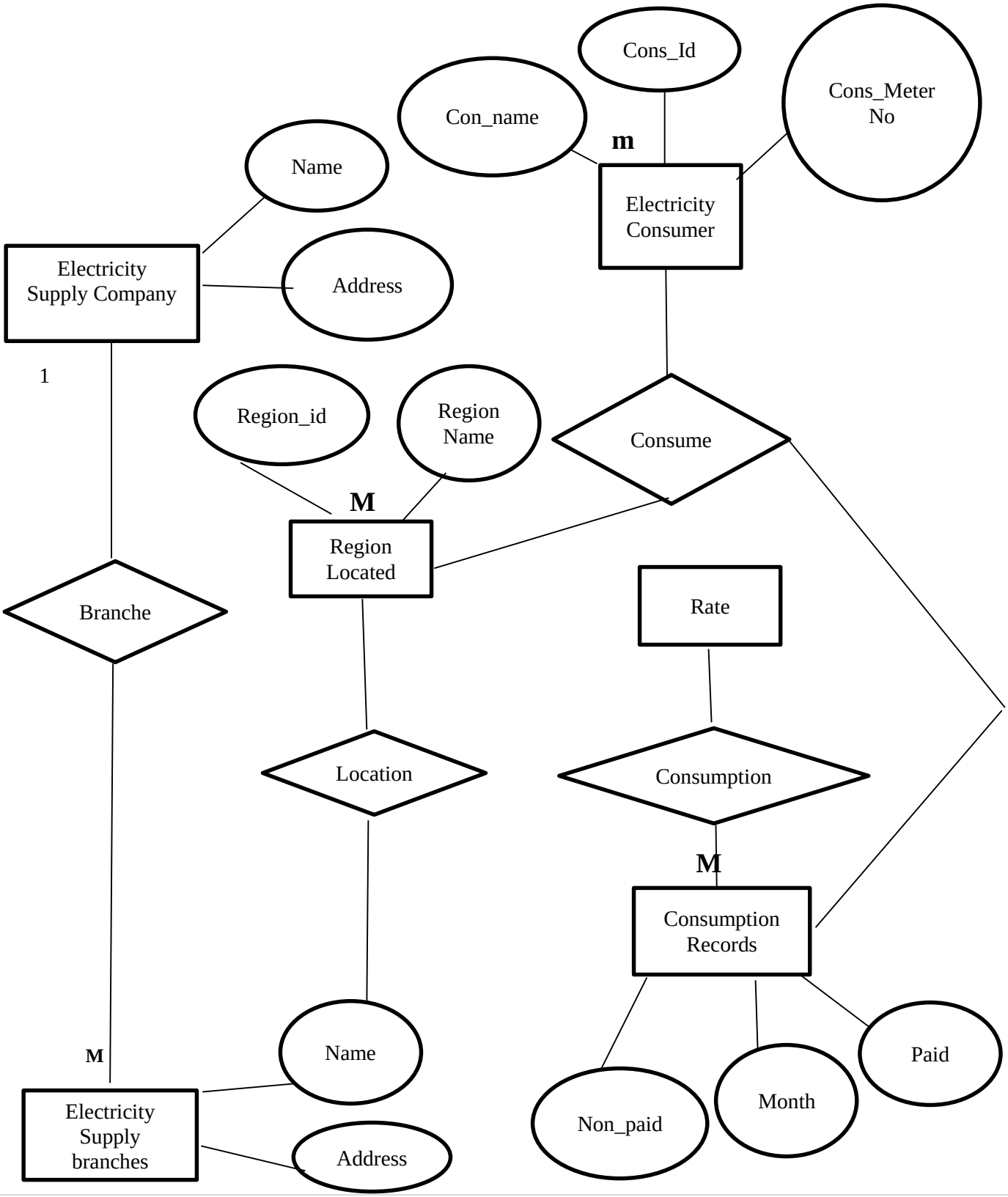
In the proprietary software industry, an end-user license agreement or software license agreement is the contract between the licensor and purchaser, establishing the purchaser's right to use the software. The license may define ways under which the copy can be used.Software companies often make special agreements with large businesses and government entities that include support contracts and specially drafted warranties.

❖ **Privacy requirements**

The term "privacy" means many things in different contexts. Different people, cultures, and nations have a wide variety of expectations about how much privacy a person is entitled to or what constitutes an invasion of privacy.

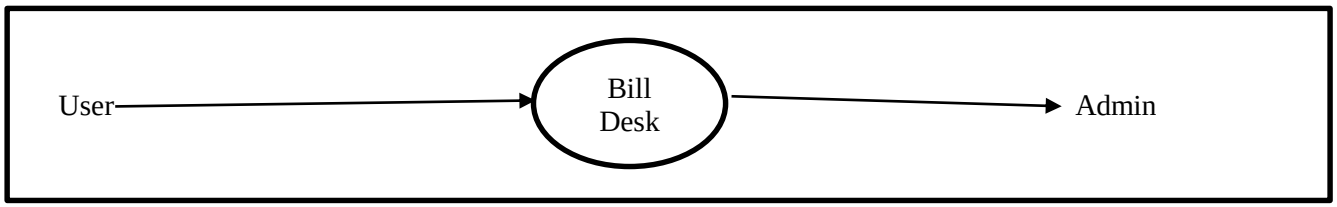
SYSTEM DESIGN

Entity Relationship Diagram (ERD)

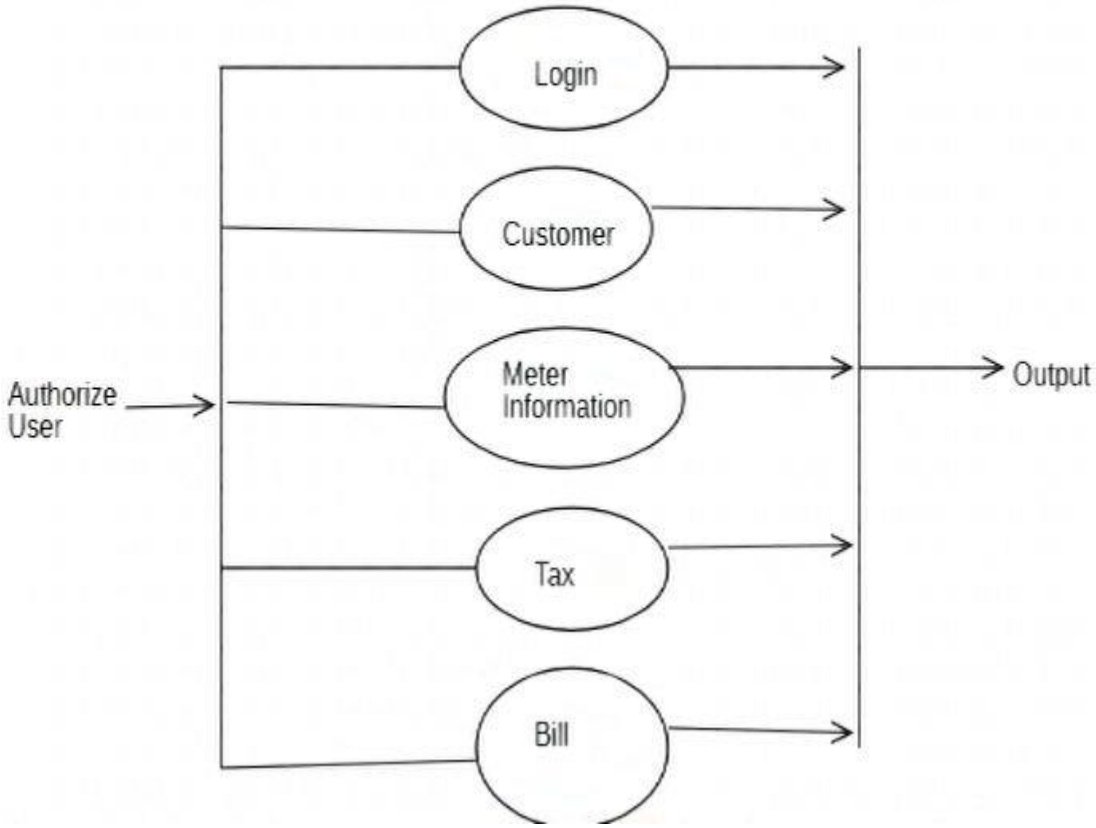


Data Flow Diagram (DFD)

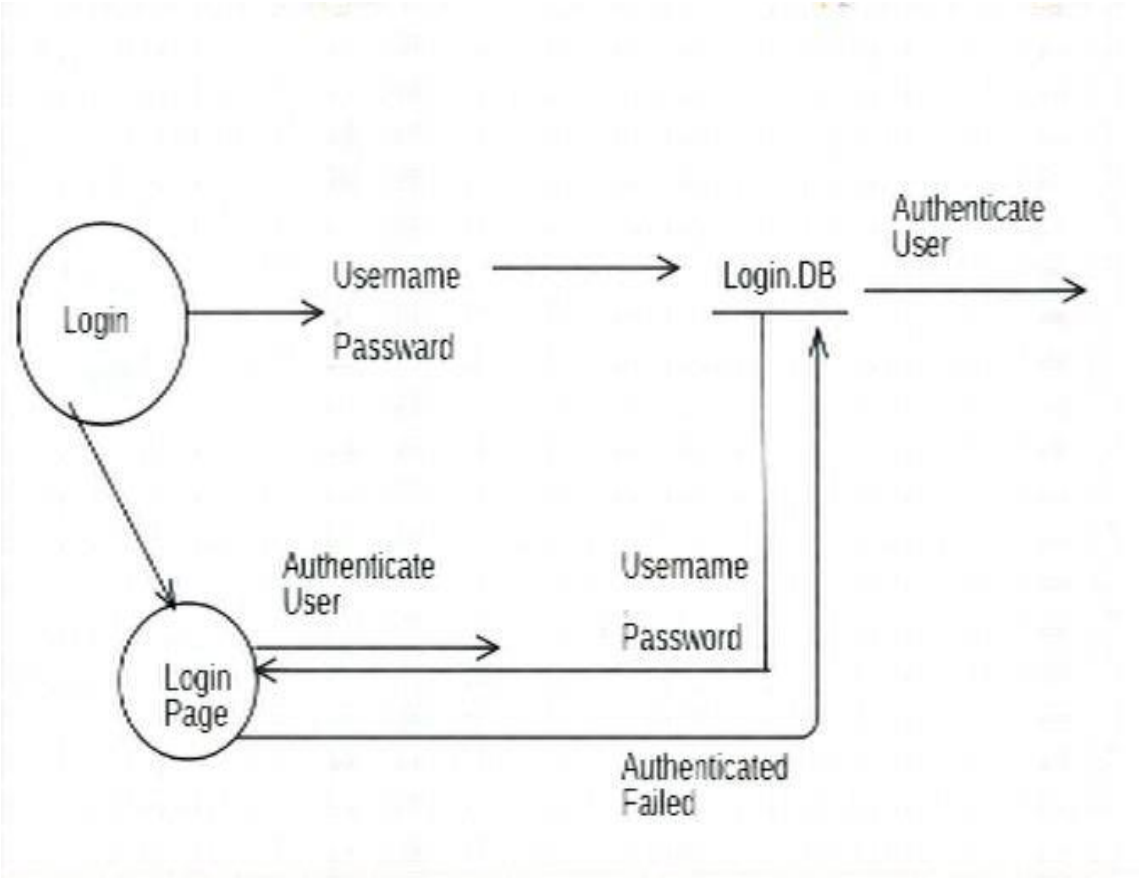
Level ZERO



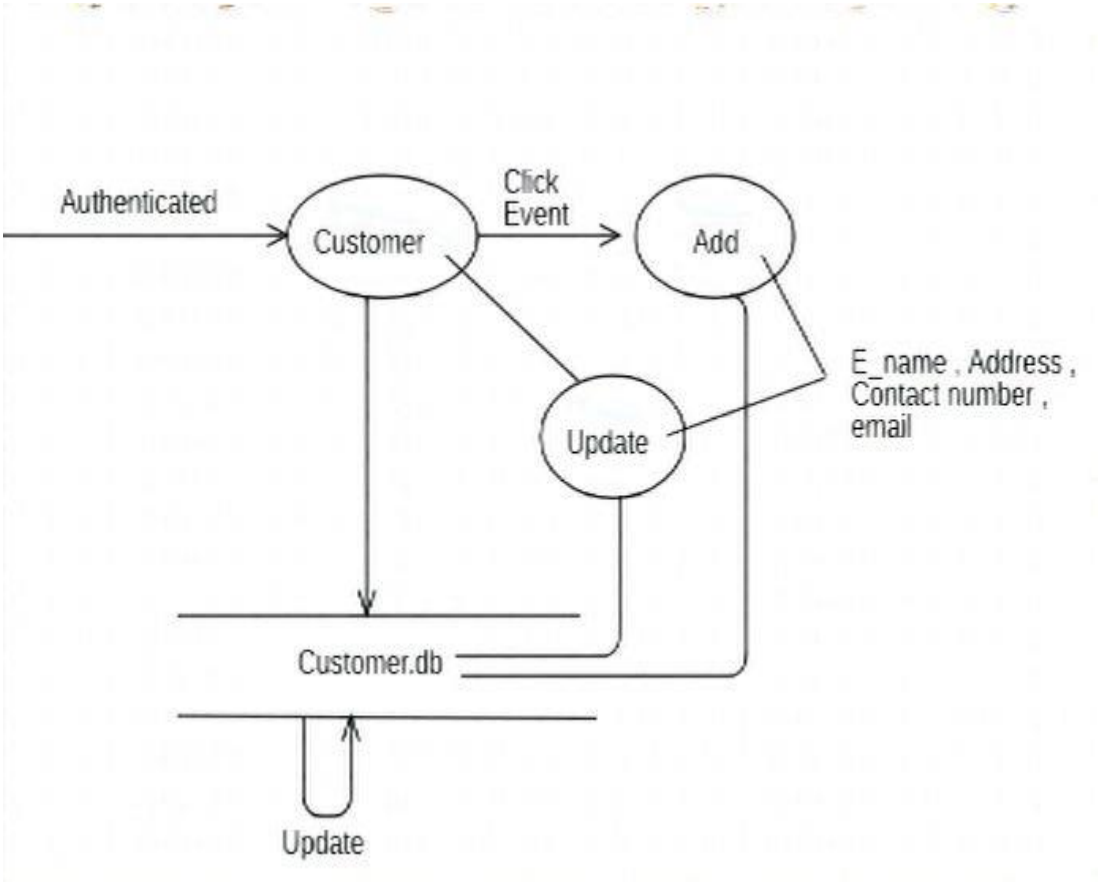
Level - 1


Login
Customer
Meter
Information
Tax
Bill
Authorize
User
Output

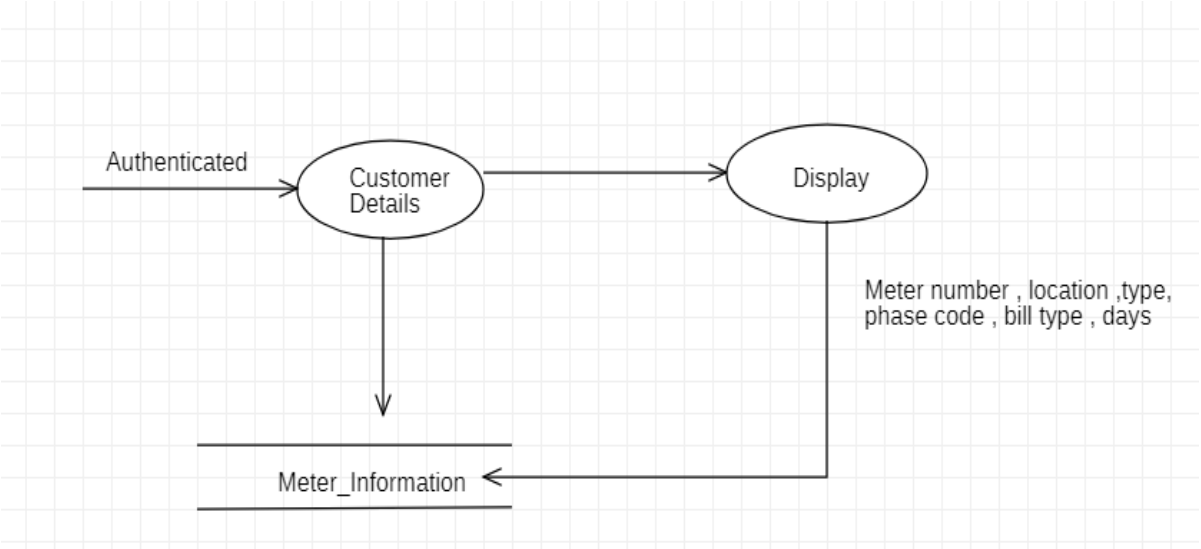
Level 2a


Login
Username
Password
Login.DB
Authenticate
User
Authenticate
User
Username
Password
Login
Page
Authenticated
Failed

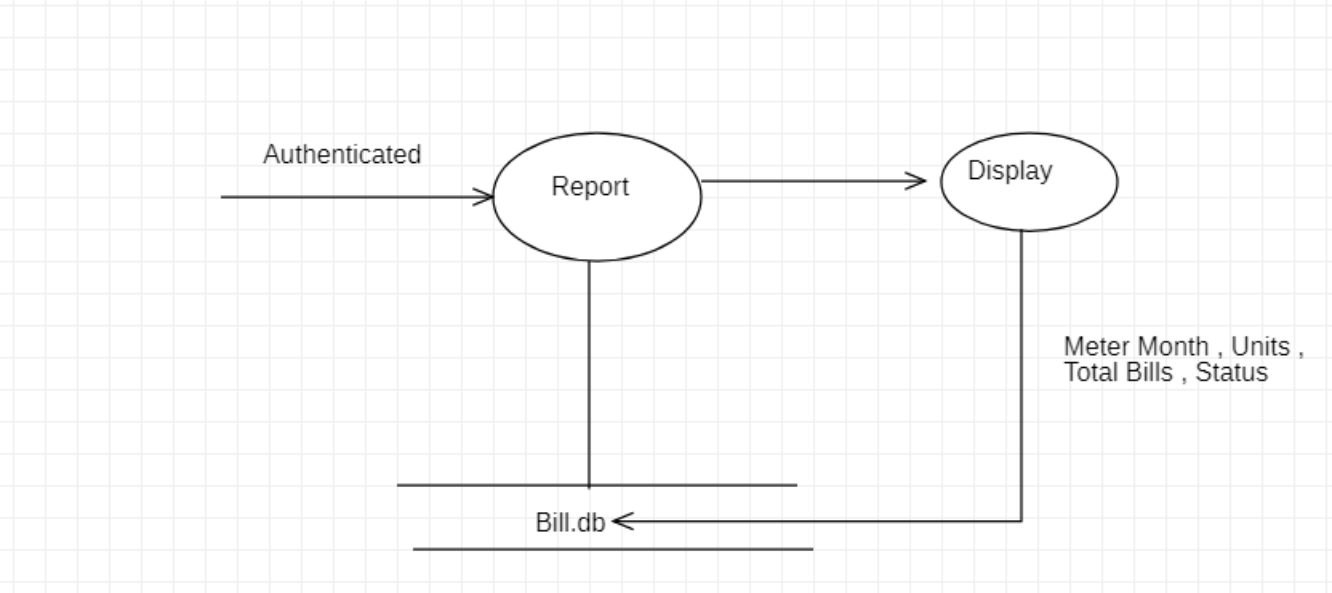
Level 2b


Authenticated
Customer
Click
Event
Add
E_name , Address ,
Contact number ,
email
Update
Customer.db
Update

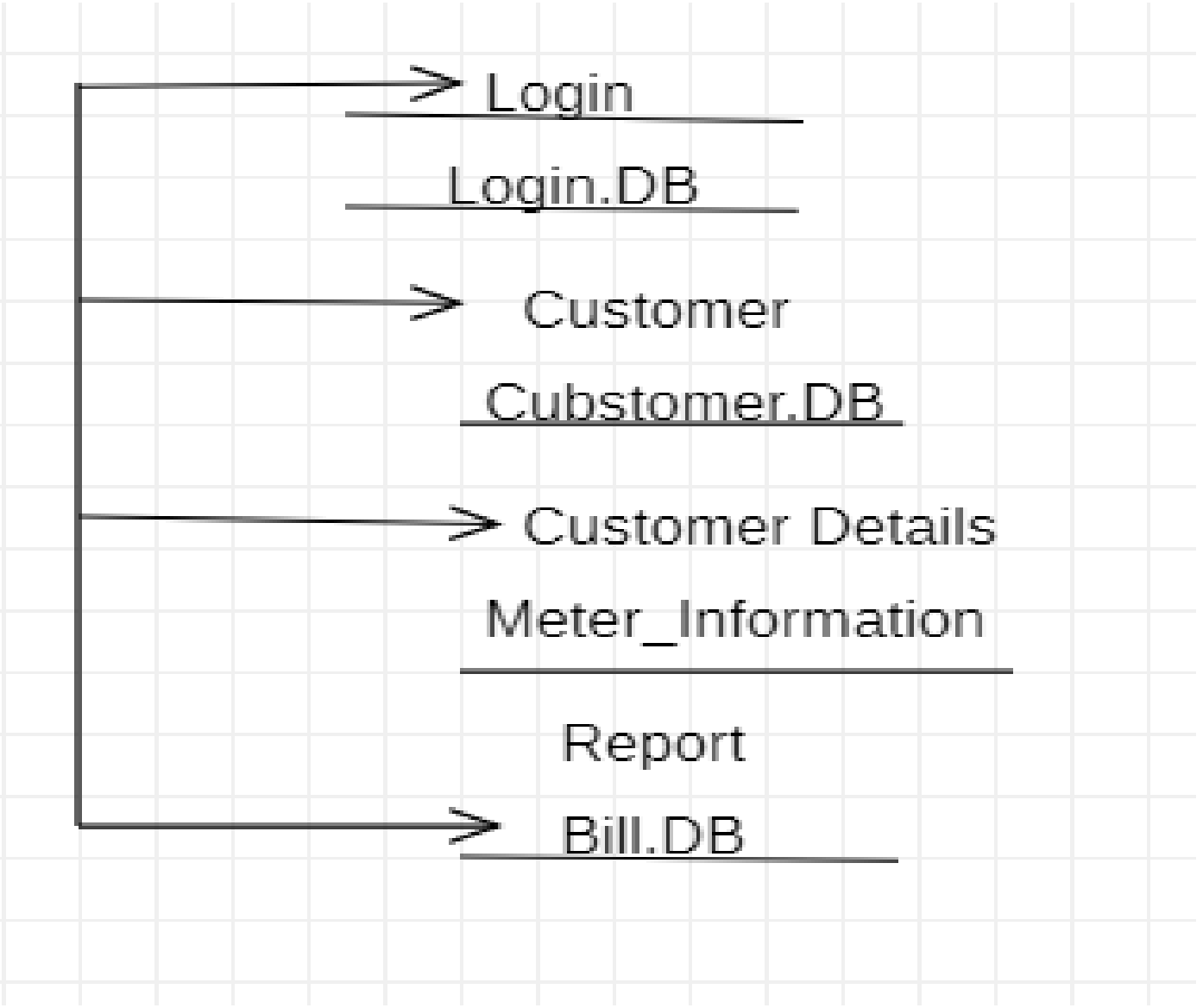
Level 2c


Authenticated
Customer Details
Display
Meter number , location ,type, phase code , bill type , days
Meter_Information

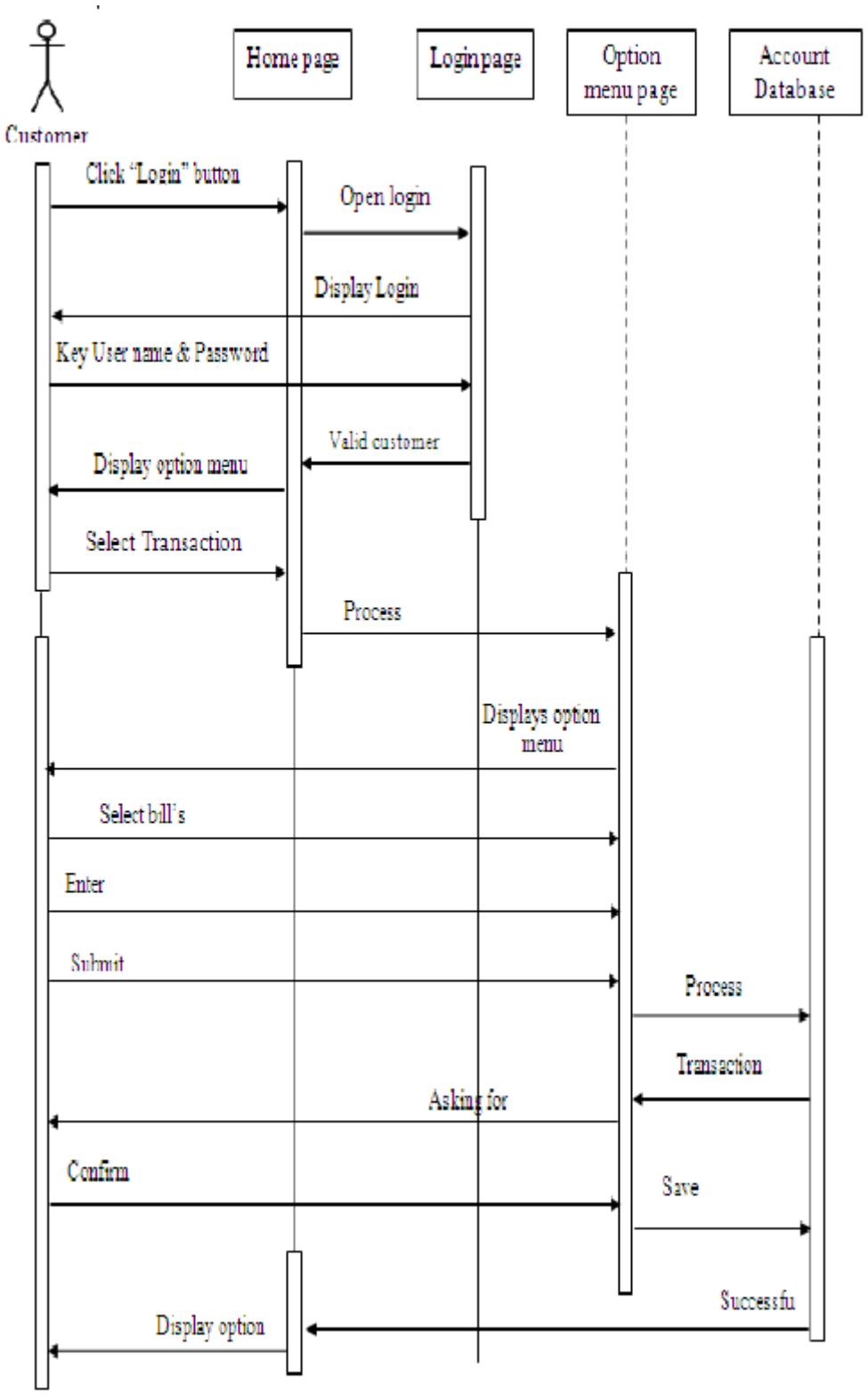
Level 2D:


Authenticated
Report
Display
Meter Month , Units ,
Total Bills , Status
Bill.db

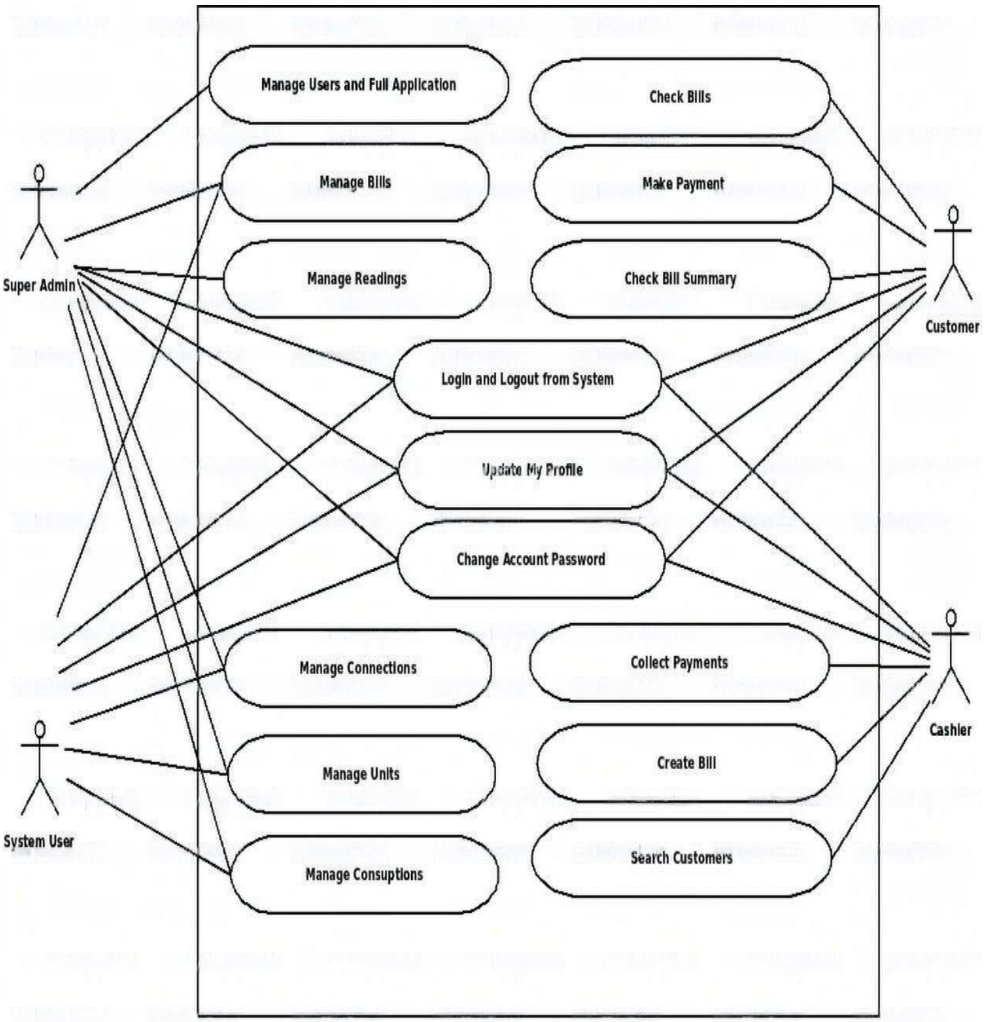
Level 3


Login
Login.DB
Customer
Cubstomer.DB
Customer Details
Meter_Information
Report
Bill.DB

Sequence Diagram

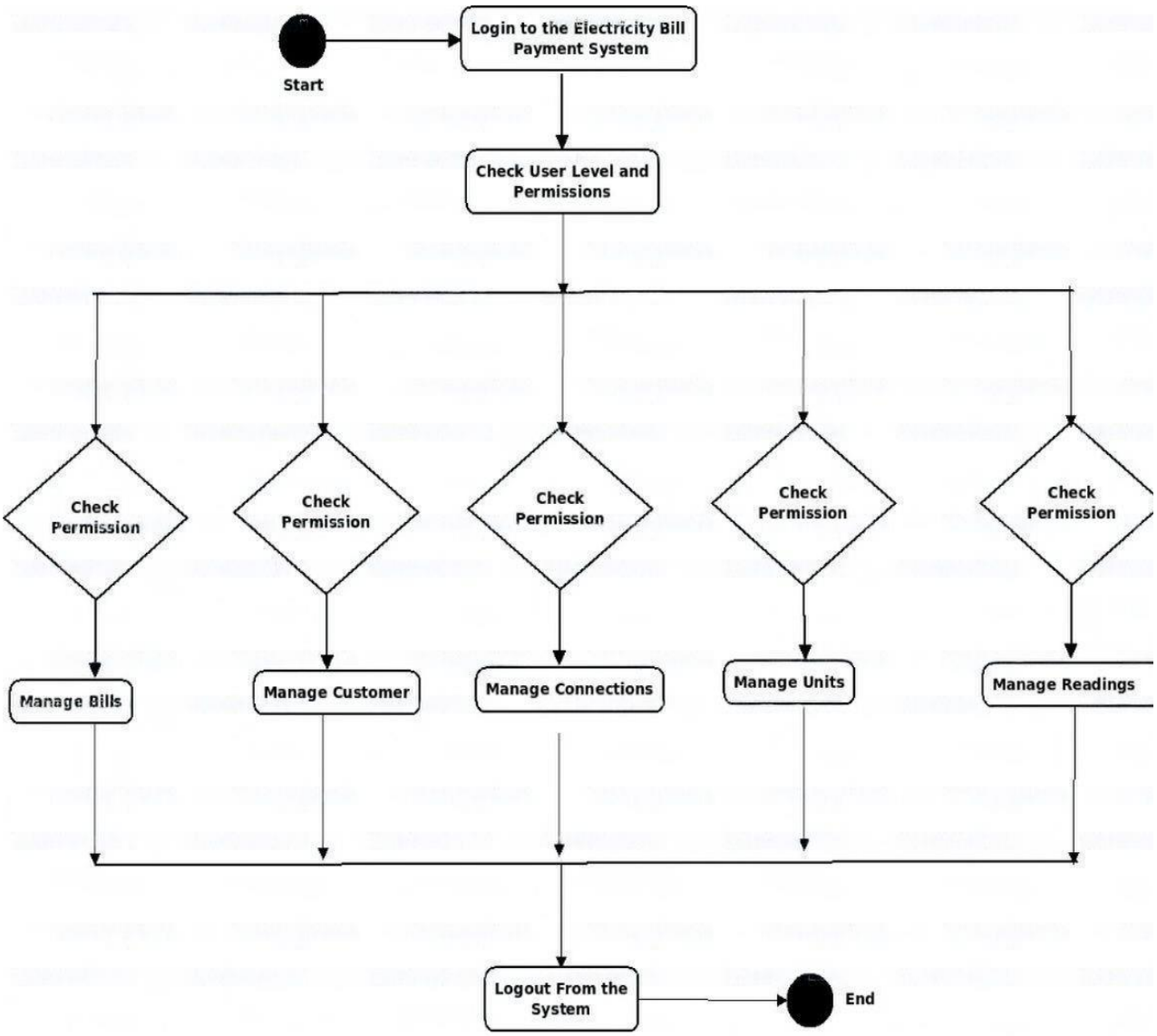

Customer
Home page
Login page
Option menu page
Account Database
Click "Login" button
Open login
Display Login
Key User name & Password
Valid customer
Display option menu
Select Transaction
Process
Displays option menu
Select bill's
Enter
Submit
Process
Transaction
Asking for
Confirm
Save
Successfu
Display option

Use case Diagram

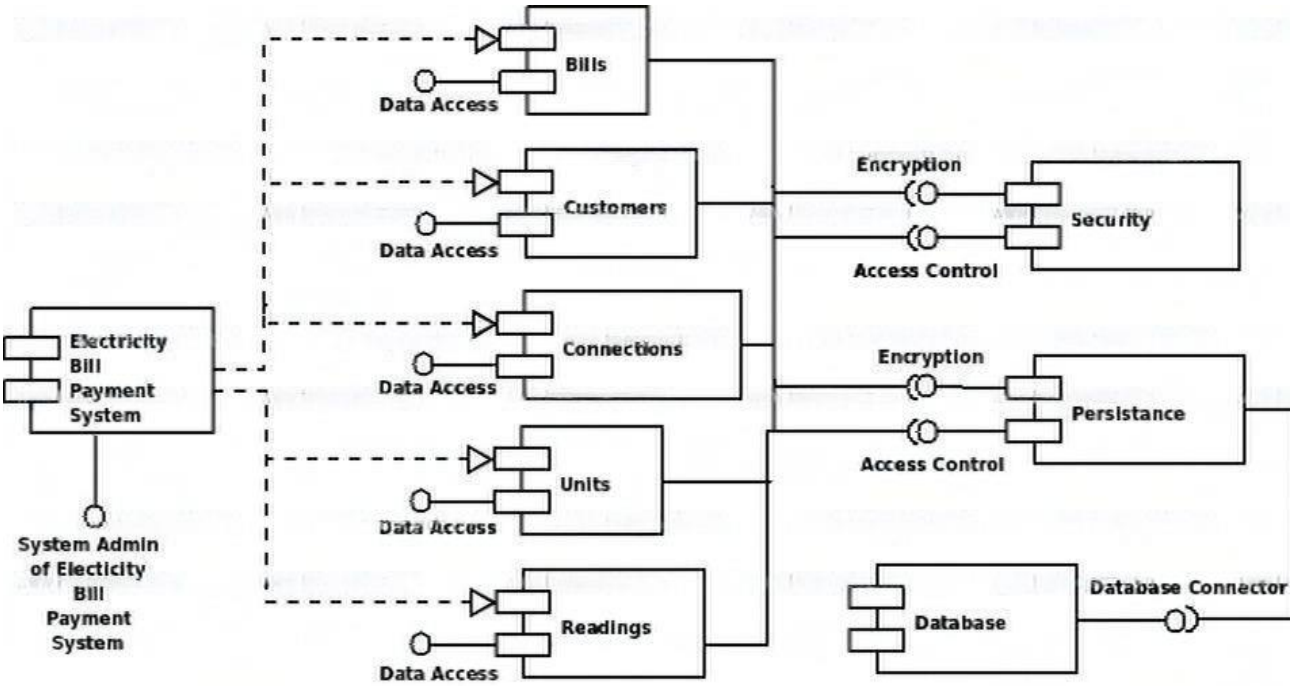


Usecase Diagram of Electricity Bill Payment System

Activity Diagram:



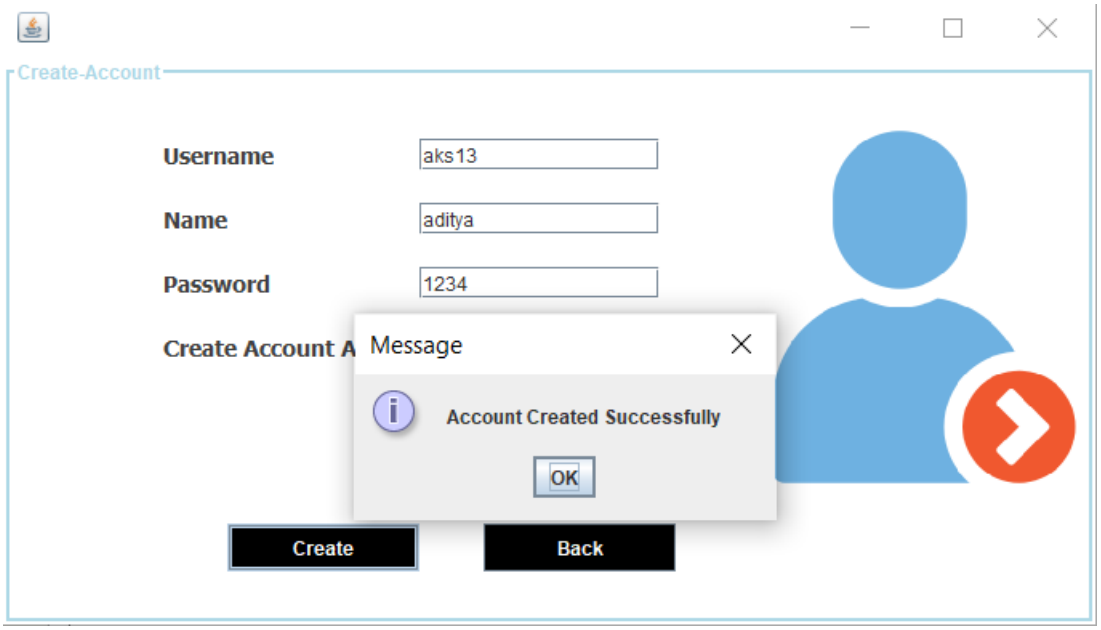
Deployment Diagram:



User Interface Design :

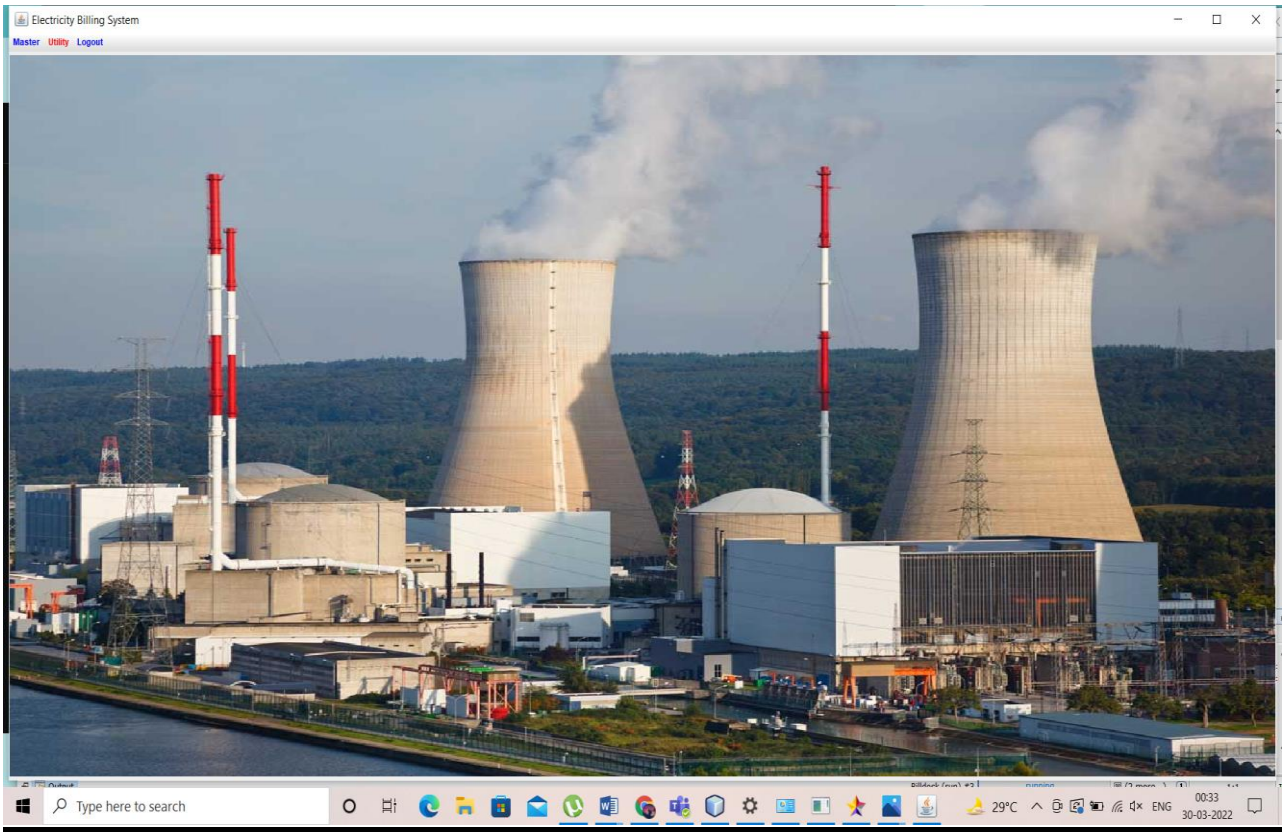
Splash Screen :

Create Account As Admin:

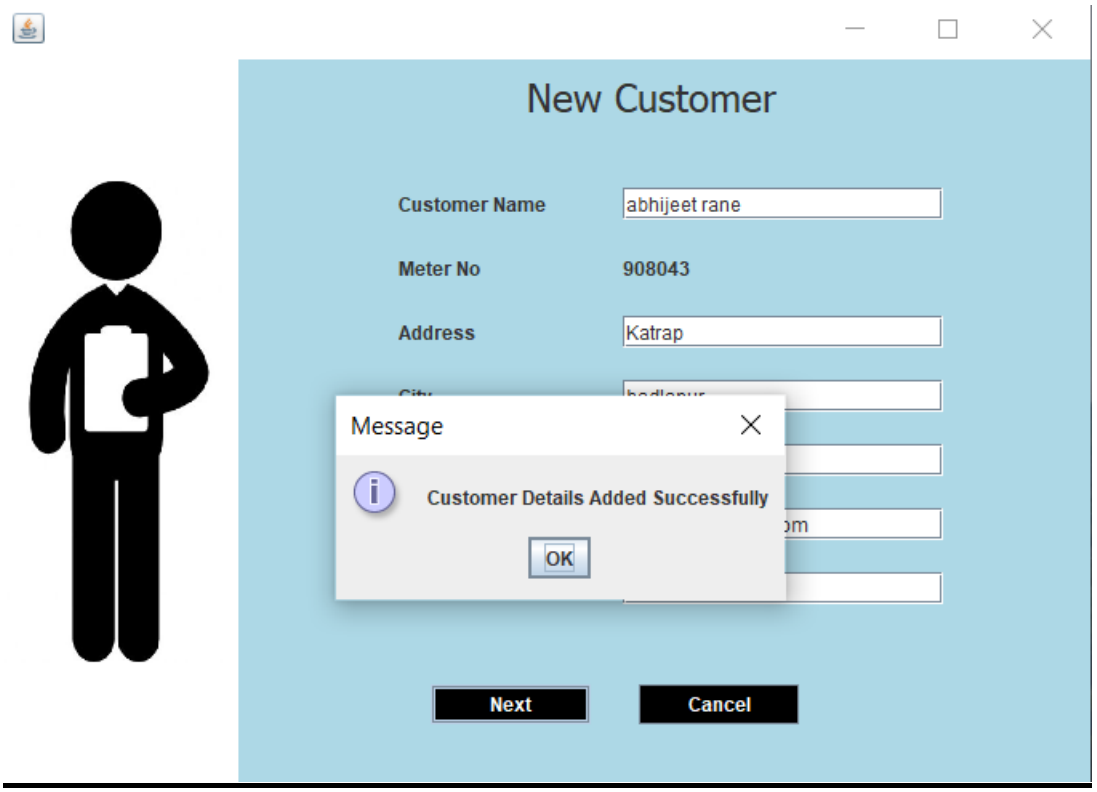


Login As Admin :

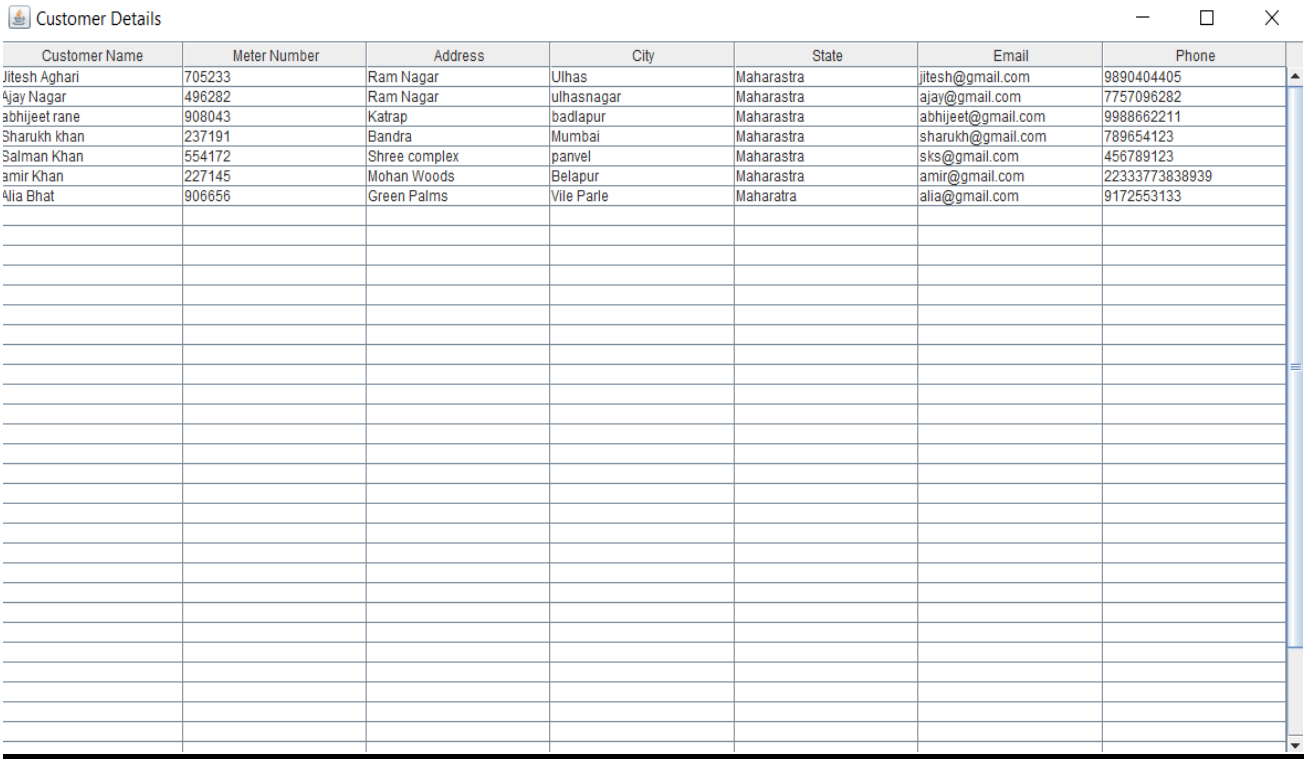
Admin Interface:



New customer :

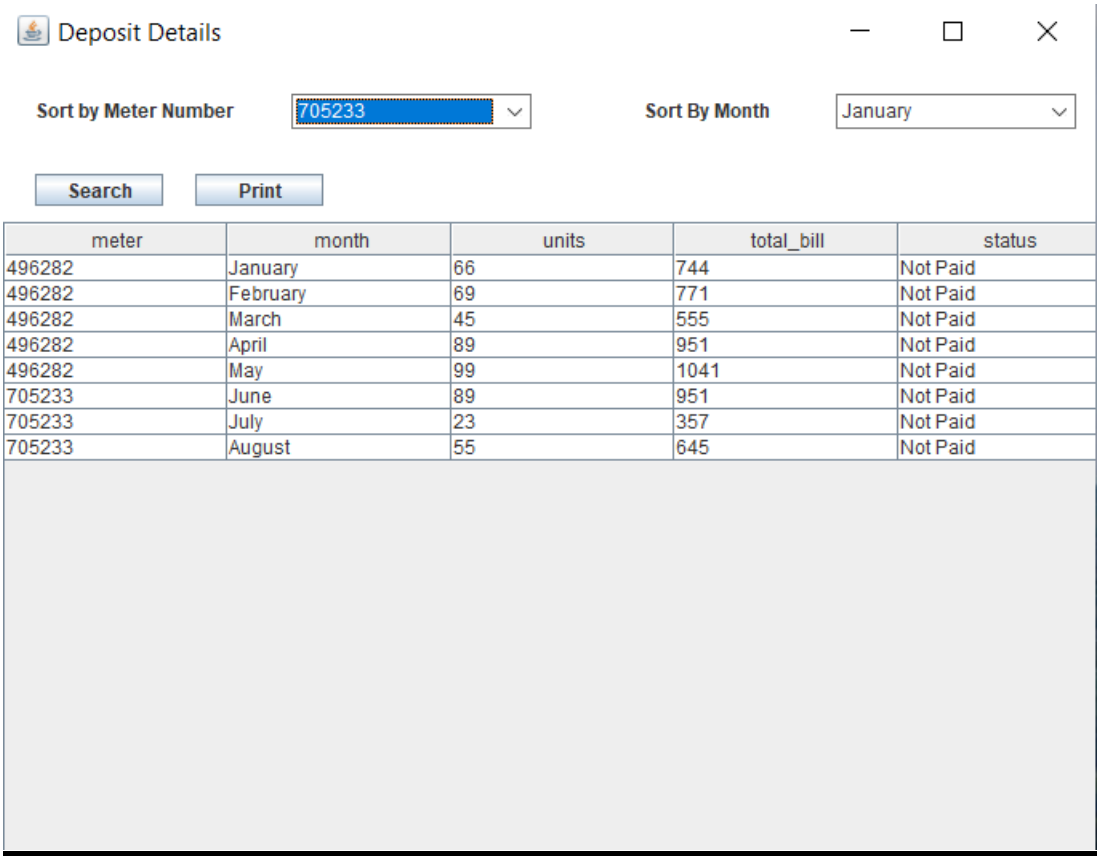


Customer Details:



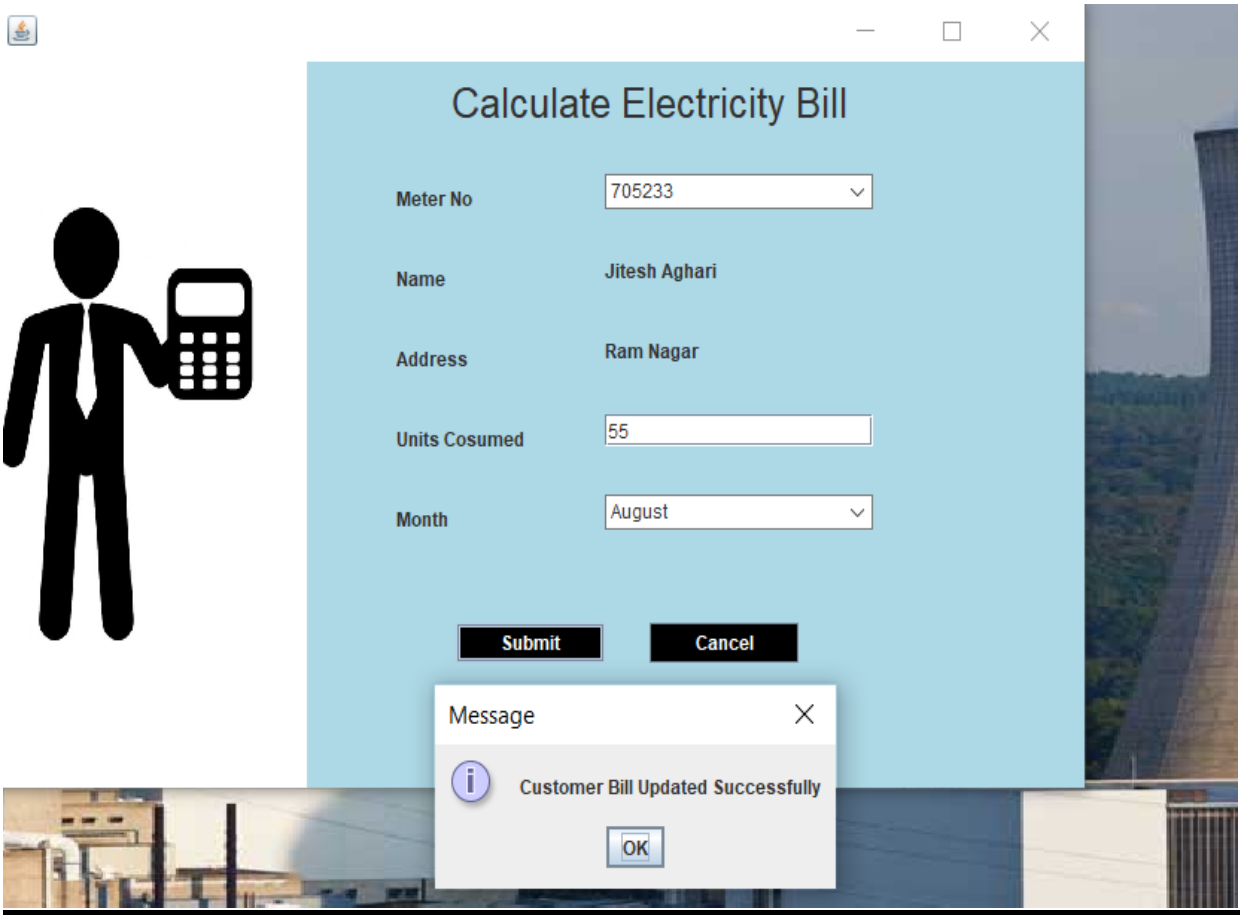
Customer Name	Meter Number	Address	City	State	Email	Phone
Jitesh Aghari	705233	Ram Nagar	Ulhas	Maharastra	jitesh@gmail.com	9890404405
Ajay Nagar	496282	Ram Nagar	ulhasnagar	Maharastra	ajay@gmail.com	7757096282
abhijeet rane	908043	Katrap	badlapur	Maharastra	abhijeet@gmail.com	9988662211
Sharukh khan	237191	Bandra	Mumbai	Maharastra	sharukh@gmail.com	789654123
Salman Khan	554172	Shree complex	panvel	Maharastra	sks@gmail.com	456789123
amir Khan	227145	Mohan Woods	Belapur	Maharastra	amir@gmail.com	22333773838939
Alia Bhat	906656	Green Palms	Vile Parle	Maharatra	alia@gmail.com	9172553133

Deposit Details :



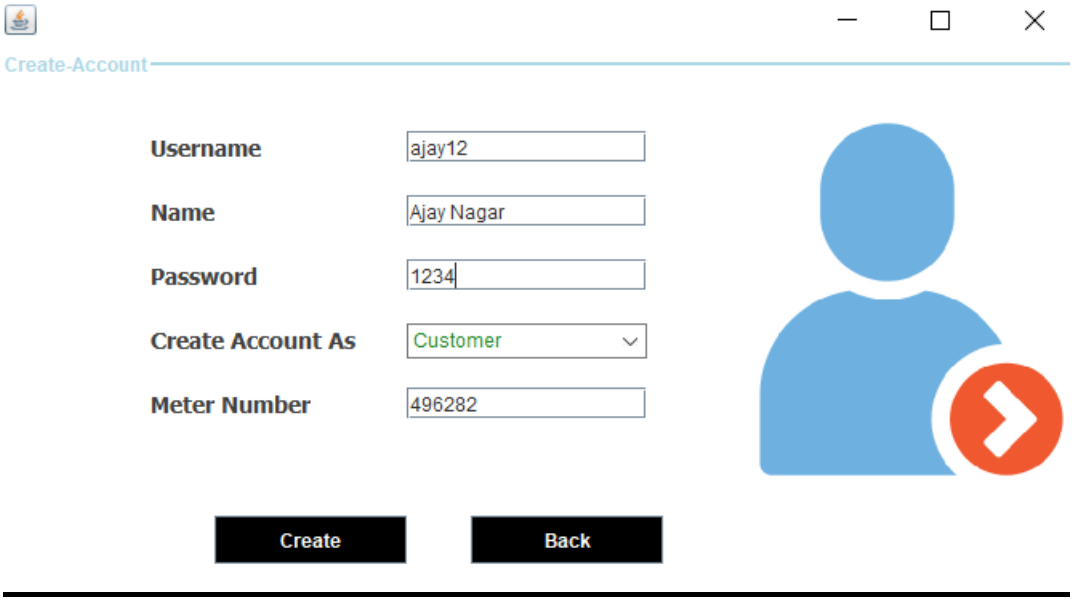
meter	month	units	total_bill	status
496282	January	66	744	Not Paid
496282	February	69	771	Not Paid
496282	March	45	555	Not Paid
496282	April	89	951	Not Paid
496282	May	99	1041	Not Paid
705233	June	89	951	Not Paid
705233	July	23	357	Not Paid
705233	August	55	645	Not Paid

Calculate Bill:



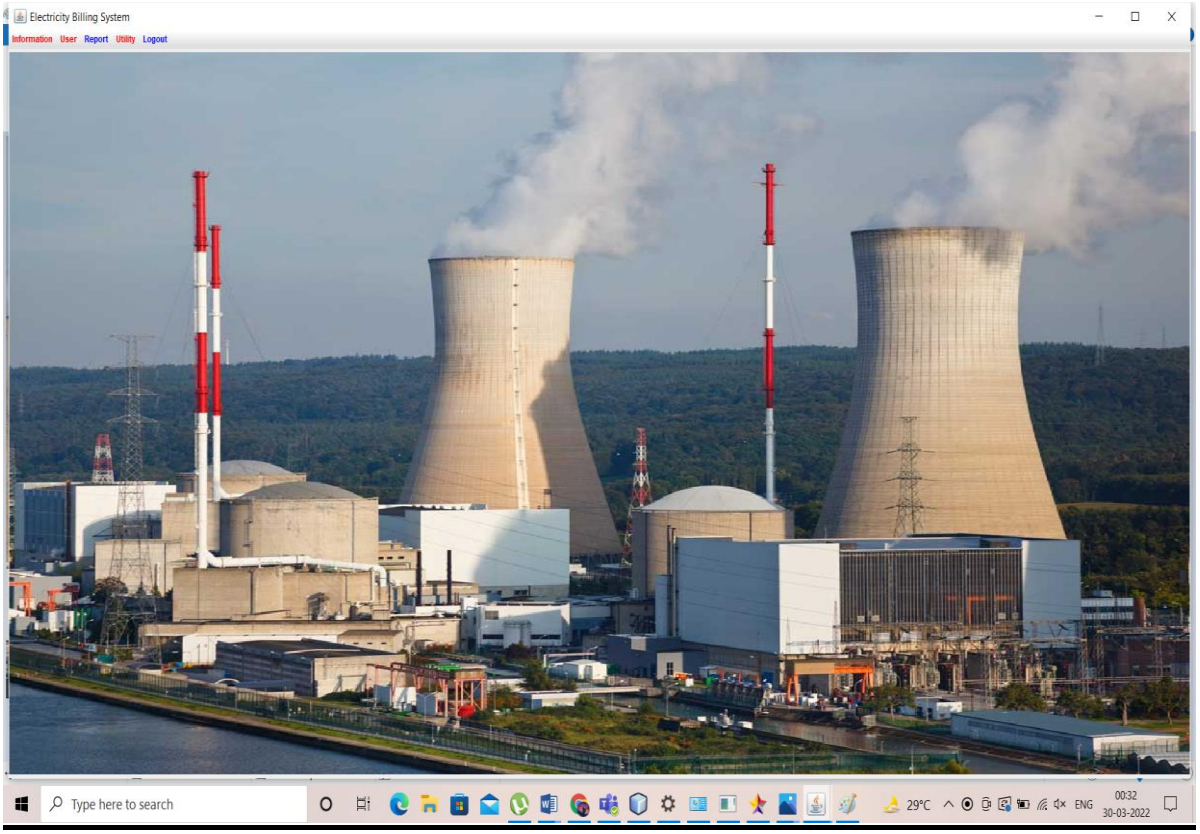
Create Account As Customer :

-



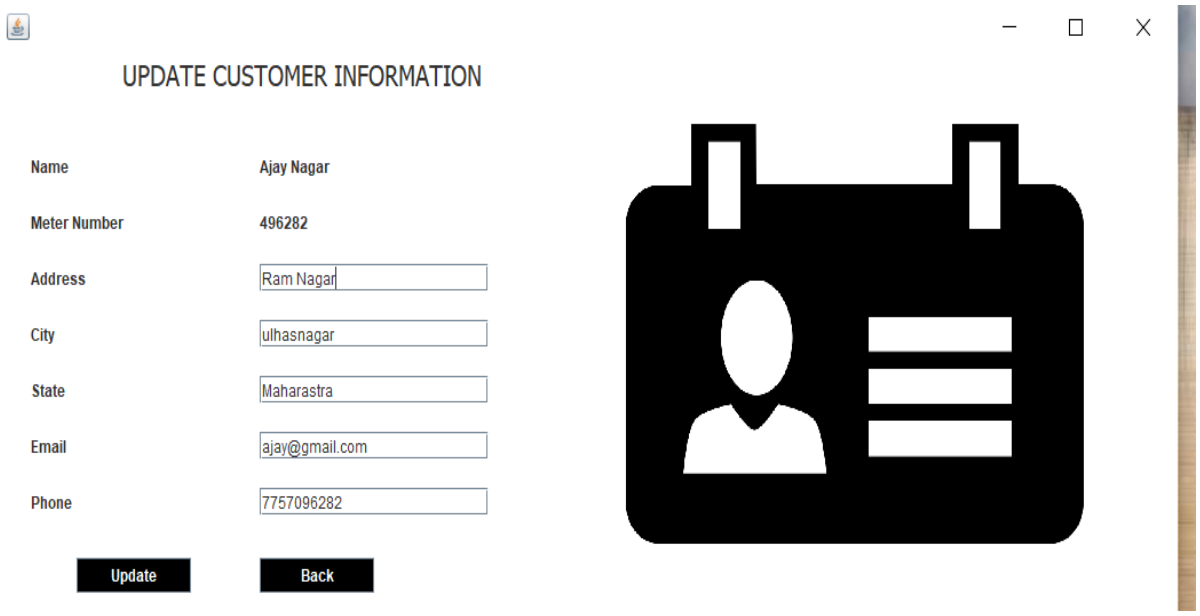
Login As Customer:

Customer Interface :

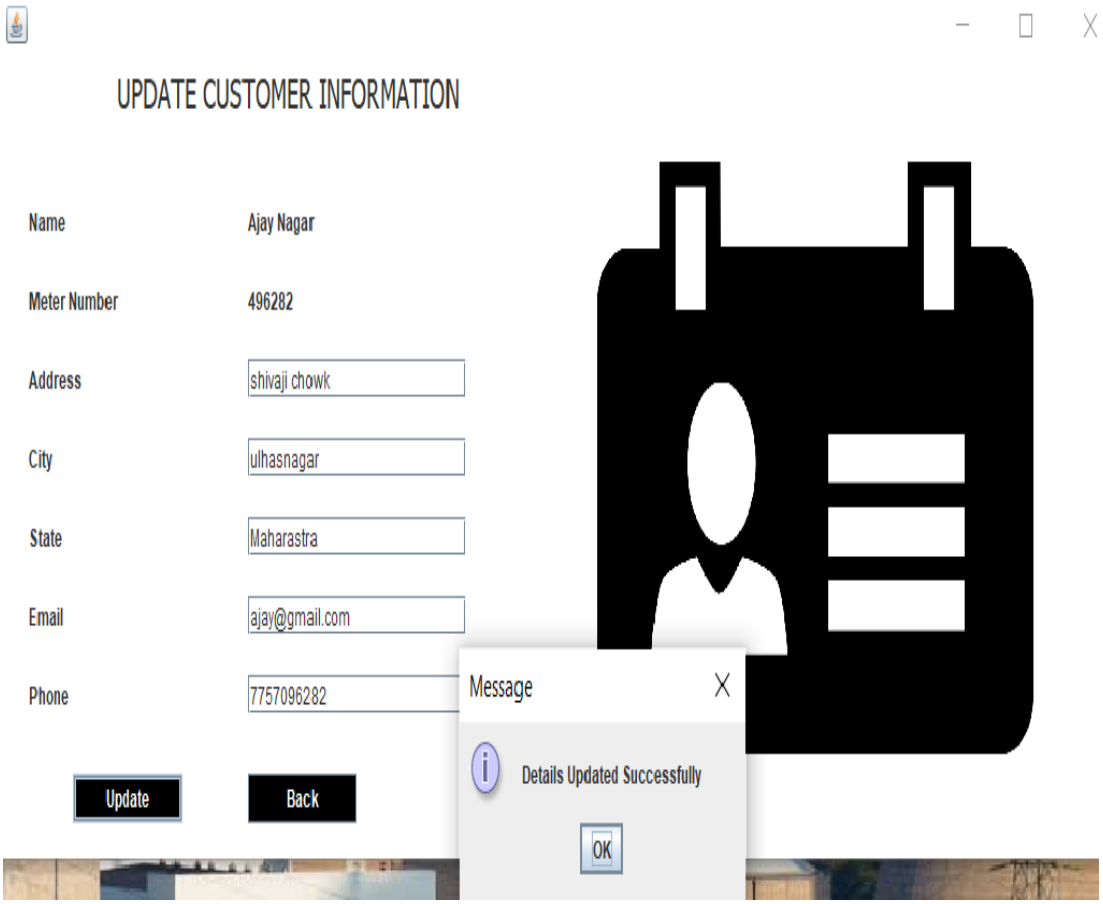


Update Information :

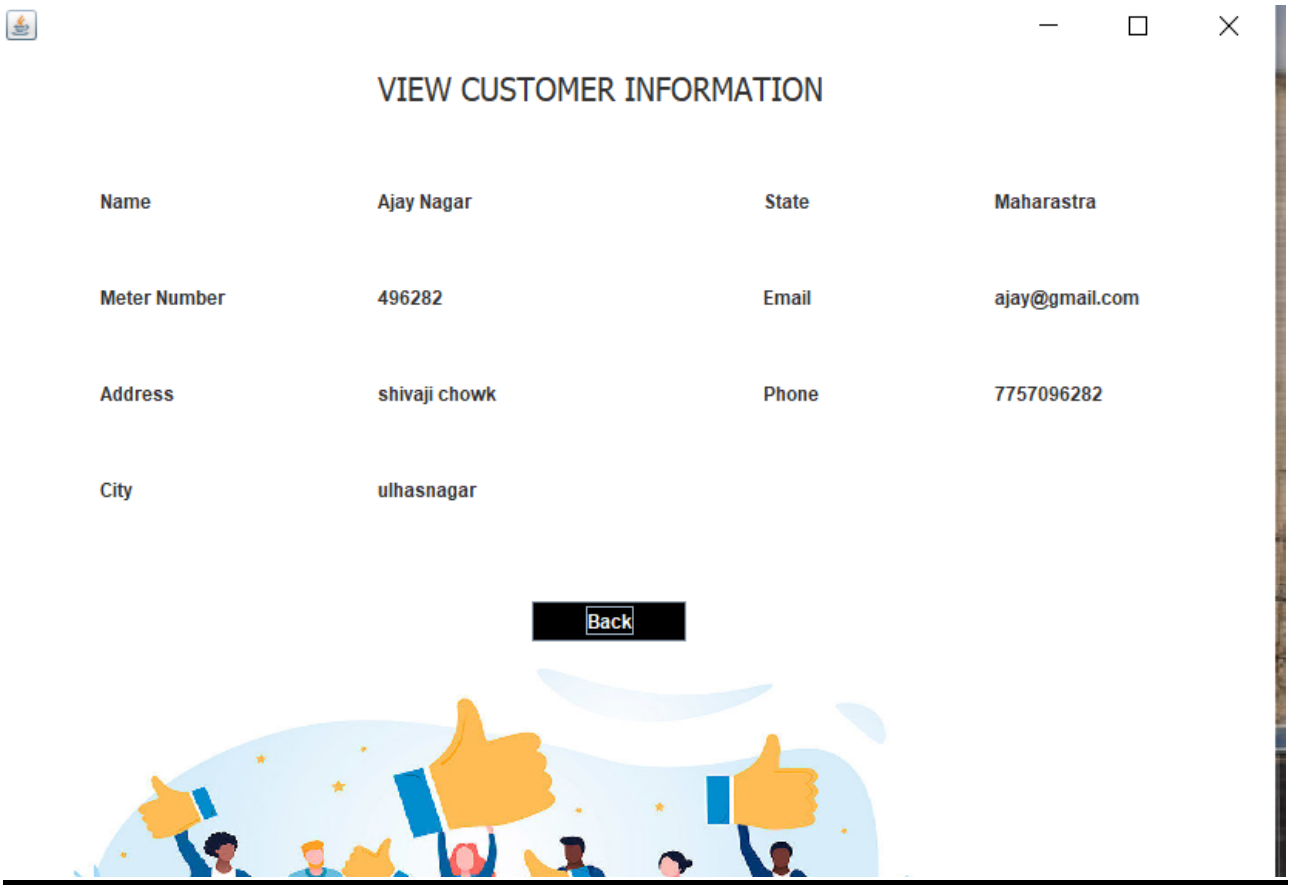
i) Customer before updating Address



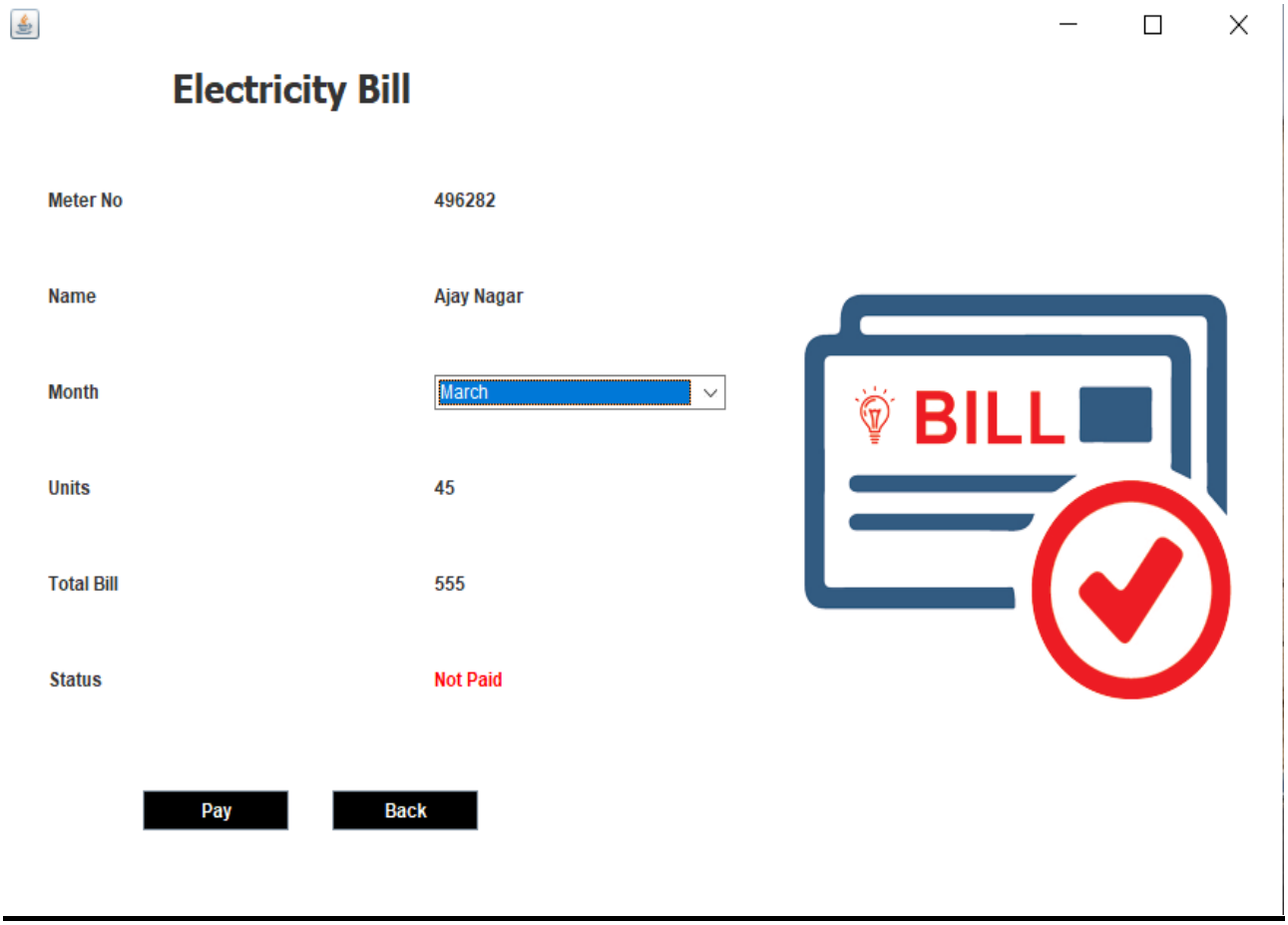
ii) Customer After Updating Address



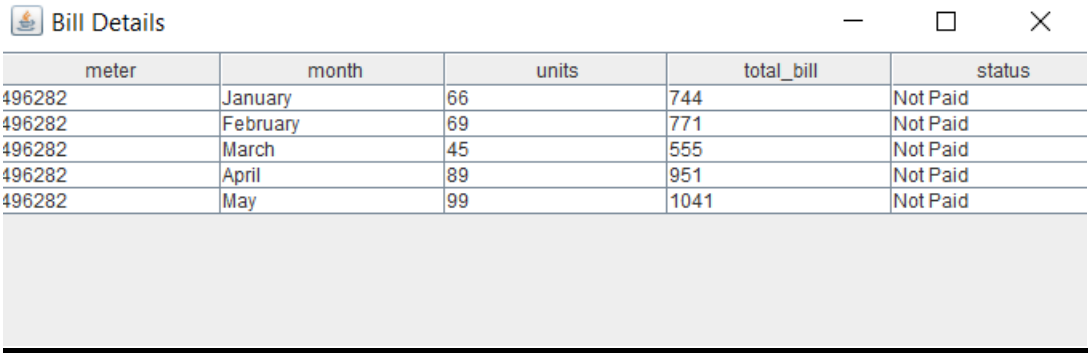
Customer can View their Information:



Customer Can View Bill of the month :

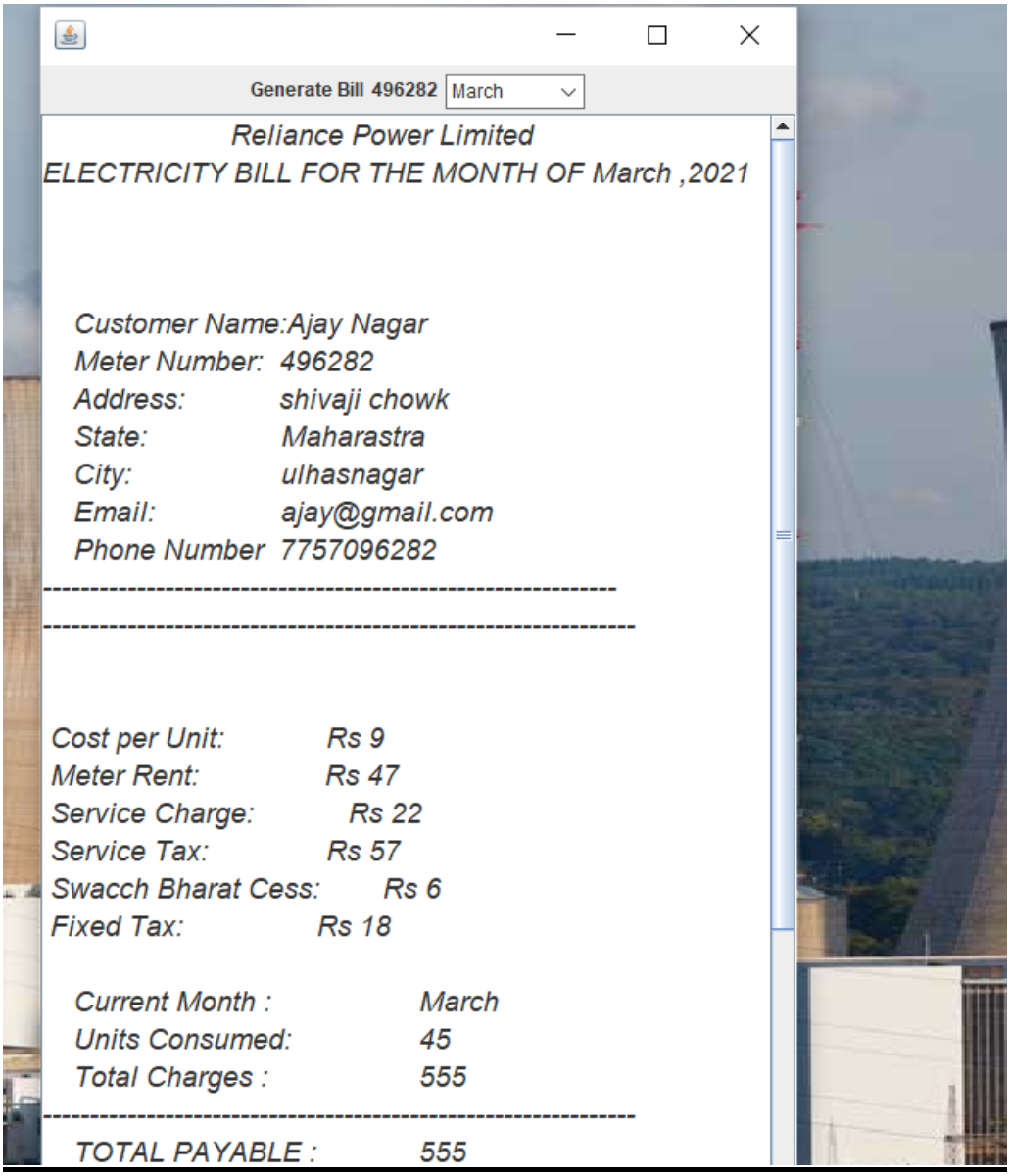


Customer can also see their pending Bills



meter	month	units	total_bill	status
496282	January	66	744	Not Paid
496282	February	69	771	Not Paid
496282	March	45	555	Not Paid
496282	April	89	951	Not Paid
496282	May	99	1041	Not Paid

Generated Bill of the customer :



About the Project:

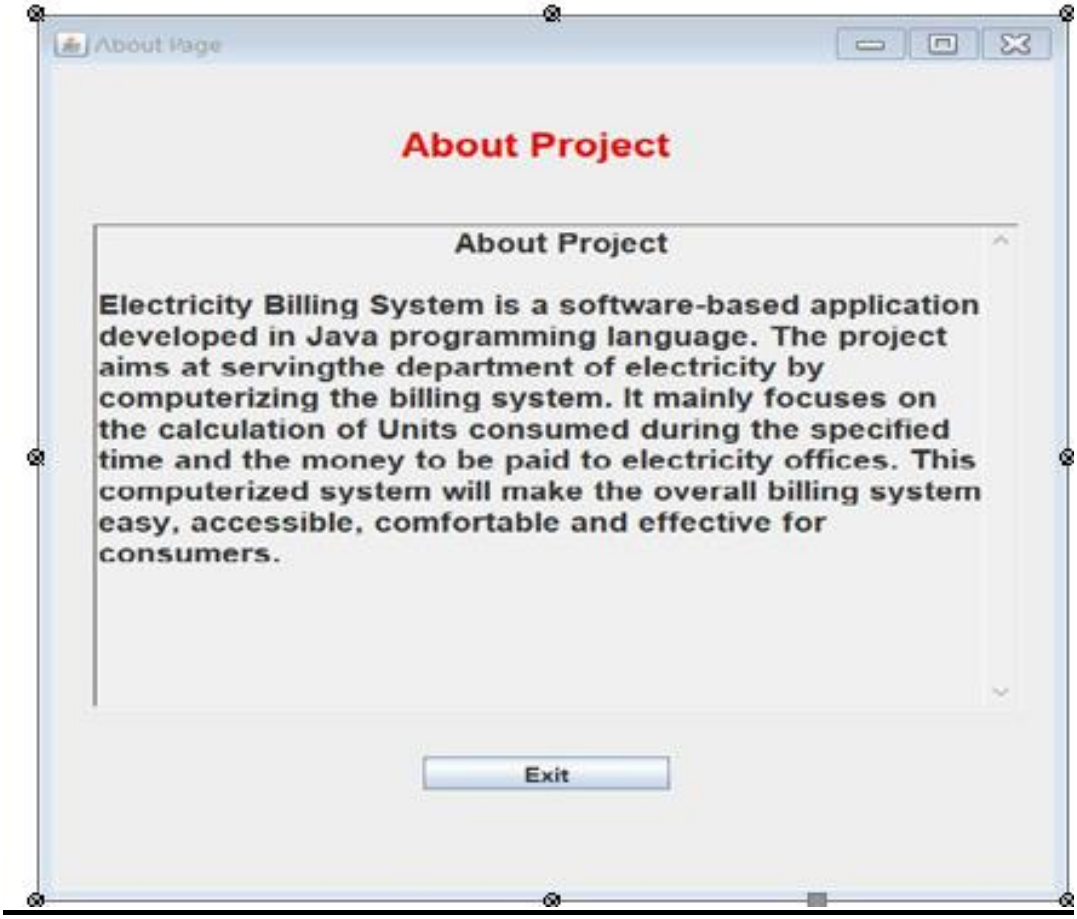


Table Specification:

Login Table

Field	Type	Key	Null	Default
Meter-no	Varchar(30)	-	Yes	Null
Username	Varchar(30)	-	Yes	Null
Name	Varchar(30)	-	Yes	Null
Password	Varchar(30)	-	Yes	Null
User	Varchar(30)	-	Yes	Null

Customer Table :

Field	Type	Key	Null	Default
Name	Varchar(30)	-	Yes	Null
Meter	Varchar(20)	-	Yes	Null
Address	Varchar(50)	-	Yes	Null
City	Varchar(20)	-	Yes	Null
State	Varchar(30)	-	Yes	Null
Email	Varchar(30)	-	Yes	Null
Phone	Varchar(20)	-	Yes	Null

Meter-Information:

Field	Type	Key	Null	Default
Meter-number	Varchar(30)	-	Yes	Null
Meter-Location	Varchar(30)	-	Yes	Null
Meter-type	Varchar(30)	-	Yes	Null
Phase code	Varchar(30)	-	Yes	Null
Bill-type	Varchar(30)	-	Yes	Null
Days	Varchar (20)	-	Yes	Null

TAX

Field	Type	Key	Null	Default
Cost- Per unit	Varchar(20)	-	Yes	Null
Meter – Rent	Varchar(20)	-	Yes	Null
Service – Charge	Varchar(20)	-	Yes	Null
Swacch-bharat-cess	Varchar(20)	-	Yes	Null
Fixed Tax	Varchar(20)	-	Yes	Null

Bill

Field	Type	Key	Null	Default
Meter	Varchar(20)	-	Yes	Null
Month	Varchar(20)	-	Yes	Null
Units	Varchar(20)	-	Yes	Null
Total-Bill	Varchar(20)	-	Yes	Null
Status	Varchar(20)	-	Yes	Null

Test Procedures and Implementation

Test procedure

The software testing is the critical element of software quality assurance and represents the ultimate review of the software design and coding. The main objective of the testing is to find an error and to uncover the errors that are not yet discovered.

The increasing visibility of software as a system element and the attendant cost associated with a software failure and motivating forces for well planned, through testing. It is no unusual for a software development organization to expand between 30% to 40% of project effort on testing. In the extreme, testing of human related software can cost 3-5 time as much as all other software engineering activities combined. the testing phase involves the testing of the system using various test data, preparation of the test data plays a vital role in the system testing after preparing the test data, error where found and corrected by using the following the testing steps and correction are recorded for future reference. Thus a series of testing is performed on the system before it is ready for implementation.

After completion of system analysis, design and coding through testing of the system was carried out in a systematic approach, the main objectives of the system are

- To ensure that the operations of the system will perform as per the specification.
- To make sure that the system meets the user requirement during the operations.
- To cross check the when correct input are filled into the system output are correct.
- To make sure that during the operation incorrect inputs and the outputs will be detected.

In testing process the number of strategies have been used as mentioned below,

- Unit Testing
- Integration Testing
- Validation Testing
- Black Box Testing
- User acceptance Testing

Unit Testing

Unit testing focuses verification efforts on the smallest unit of the software design. Using the system test plan, prepare in the design phase of the system development as guide, important control path are tested to uncover error within boundary of the module. The interface of each of the module was tested to ensure proper flow of information into and out of the module under consideration. Each module will be tested individually so as to make the individual component error free. Also other attached modules will be error free.

Integration Testing:

Each module will be tested of its effect on other module by integrating the modules. This will remove further errors from the system and may also result in some changes in the individual module.

Validation Testing

At the culmination of the integration testing the software was completely assembled as package, interfaces have been uncovered, and a final series of software validation testing began. Here we test the system function manner that can be reasonably by the customer ,the system was tested against system requirement specification.

Black Box Testing:

After performing validation testing, the next phase is output test of the system, since no system code is useful if it does not produce the desired output in desired format. By considering the format of the report/output, report/output is generated or displayed and tested.

User Acceptance Testing:

User acceptance testing is used to determine the whether the software is fit for the user to use. The System under consideration was listed for user acceptance by keeping constant touch with the prospective user of the system at the time of design, development and making change whenever required.

Test Case:

- Title: Test case for Login.
- Objective: To check that user properly logged in.

Test Case Id	Test Type	Test Case Name	Steps to be Followed	Expected Result	Actual Result	Status	Priority
1	The application should be installed properly & Accessible.	Test case for Login	1.Enter Username 2.Enter password 3.Click Login Button	It Shows Main MDI Form	It Shows Main MDI Form	Pass	2
2			1. Enter username 2.Click Login Button	Set Focus on password field	Set Focus on password field	Pass	
3.			1.enter password 2.click Login Button	Set Focus on username field	Set Focus on username field	Pass	

Title: Test case for user Signup.

Objective: To check that how new user properly added.

Test Case Id	Test Type	Test Case Name	Steps to be Followed	Expected Result	Actual Result	Status	Priority
1.	The application should be installed properly & Accessible.	Test case for user Registration.	1.Enter User Name 2.Enter Mail ID 3.Enter Account no 4.Enter Bank Name 5.Enter Website 6.Enter Address Submit button	It shows all field are compulsory Message.	It shows all field are compulsory Message.	Pass	2
2.			1.Enter User Name 2.Enter Address	It shows these fields accept only Characters.	It shows these fields accept only Characters.	Pass	

			3.click submit Button				
3.			1.Enter Mail ID 4.click Submit button	It shows these field should have proper mail ID	It shows these field should have proper mail ID	Pass	

1 User Manual

Although the user interface of the system is constructed in such a way that anyone can use the system if he has the basic knowledge of the operating keyboard and mouse operation of the computer. All pages of the application contain the descriptive links and the buttons that will help the user to perform the required operation.

There are following links/module.

I) Splash
It is basically introduction of software

II) Login
In Login We have two option Admin / Consumer . when user do the Admin login he will get to see Admin panel.
When user do consumer login he will to see consumer panel.

III) Signup
When user is admin he / she has to choose user id set password and there name they have to type. Whereas when it is a customer account it is same as admin but user has to know there meter_number before signup.

IV) Customer Details
It will basically show all details of the customer like Meter_no , Address , City , State and these all Details will visible to only Admin.

V) Deposite Details
It will Basically show customer's meter_no , which Month , units consumed , total bill paid or not it will Visible to Admin and as well there customer with there allotted Meter_number.

VI) Update Information :

This feature is been used by both Admin / Customer .

VII) New Customer :
This feature is only for Admin where he can add new customers in his records as well as assign meter_number to the cutomer.

BIBLIOGRAPHY

- **Project guide**
- **The Complete Reference Net B**
- **www.stackoverflow.com**
- **www.youtube.com**
- **Experienced Professionals**

Bill Details

```
package Electricity;

import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;
import net.proteanit.sql.DbUtils;

public class BillDetails extends JFrame{

   JTable t1;
   String x[] = {"Meter Number","Month","Units","Total Bill","Status"};
   String y[][] = new String[40][8];
   int i=0, j=0;
   BillDetails(String meter){
      super("Bill Details");
      setSize(700,650);
      setLocation(600,150);
      setLayout(null);
      getContentPane().setBackground(Color.WHITE);

      t1 = new JTable(y,x);

      try{
         Conn c  = new Conn();
         String s1 = "select * from bill where meter = " + meter;
         ResultSet rs  = c.s.executeQuery(s1);

         t1.setModel(DbUtils.resultSetToTableModel(rs));

      }catch(Exception e){
         e.printStackTrace();
      }


      JScrollPane sp = new JScrollPane(t1);
      sp.setBounds(0, 0, 700, 650);
      add(sp);

   }

   public static void main(String[] args){
      new BillDetails("").setVisible(true);
   }

}
```

Generate Bill

```
package Electricity;

import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import java.sql.*;

public class GenerateBill extends JFrame implements ActionListener{
    JLabel l1, l2;
    JTextArea t1;
    JButton b1;
    Choice c2;
    JPanel p1;
    String meter;
    GenerateBill(String meter){
        this.meter = meter;
        setSize(500,900);
        setLayout(new BorderLayout());

        p1 = new JPanel();

        l1 = new JLabel("Generate Bill");

        l2 = new JLabel(meter);
        c2 = new Choice();

        c2.add("January");
        c2.add("February");
        c2.add("March");
        c2.add("April");
        c2.add("May");
        c2.add("June");
        c2.add("July");
        c2.add("August");
        c2.add("September");
        c2.add("October");
        c2.add("November");
        c2.add("December");


        t1 = new JTextArea(50,15);
        t1.setText("\n\n\t------- Click on the -------\n\t Generate Bill Button to get\n\tthe bill of the Selected
Month\n\n");
        JScrollPane jsp = new JScrollPane(t1);
        t1.setFont(new Font("Senserif",Font.ITALIC,18));

        b1 = new JButton("Generate Bill");
```

```
        p1.add(l1);
        p1.add(l2);
        p1.add(c2);
        add(p1,"North");

        add(jsp,"Center");
        add(b1,"South");

        b1.addActionListener(this);

        setLocation(750,100);
    }
    public void actionPerformed(ActionEvent ae){
        try{
            Conn c = new Conn();

            String month = c2.getSelectedItem();
            t1.setText("\tReliance Power Limited\nELECTRICITY BILL FOR THE MONTH OF "+month+"
,2021\n\n\n");

            ResultSet rs = c.s.executeQuery("select * from customer where meter="+meter);

            if(rs.next()){
                t1.append("\n    Customer Name:"+rs.getString("name"));
                t1.append("\n    Meter Number:  "+rs.getString("meter"));
                t1.append("\n    Address:          "+rs.getString("address"));
                t1.append("\n    State:             "+rs.getString("state"));
                t1.append("\n    City:               "+rs.getString("city"));
                t1.append("\n    Email:             "+rs.getString("email"));
                t1.append("\n    Phone Number  "+rs.getString("phone"));
                t1.append("\n-----------------------------------------------------------");
                t1.append("\n");
            }

            rs = c.s.executeQuery("select * from meter_info where meter_number = " + meter);

            if(rs.next()){
                t1.append("\n    Meter Location:"+rs.getString("meter_location"));
                t1.append("\n    Meter Type:     "+rs.getString("meter_type"));
                t1.append("\n    Phase Code:    "+rs.getString("phase_code"));
                t1.append("\n    Bill Type:       "+rs.getString("bill_type"));
                t1.append("\n    Days:            "+rs.getString("days"));
                t1.append("\n");
            }
            rs = c.s.executeQuery("select * from tax");
            if(rs.next()){
                t1.append("-----------------------------------------------------------");
                t1.append("\n\n");
                t1.append("\n Cost per Unit:          Rs "+rs.getString("cost_per_unit"));
                t1.append("\n Meter Rent:            Rs "+rs.getString("meter_rent"));
```

```
            t1.append("\n Service Charge:          Rs "+rs.getString("service_charge"));
            t1.append("\n Service Tax:            Rs "+rs.getString("service_tax"));
            t1.append("\n Swacch Bharat Cess:      Rs "+rs.getString("swacch_bharat_cess"));
            t1.append("\n Fixed Tax:              Rs "+rs.getString("fixed_tax"));
            t1.append("\n");

        }

        rs = c.s.executeQuery("select * from bill where meter="+meter+" AND month =
'"+c2.getSelectedItem()+"'");

        if(rs.next()){
            t1.append("\n    Current Month :\t"+rs.getString("month"));
            t1.append("\n    Units Consumed:\t"+rs.getString("units"));
            t1.append("\n    Total Charges :\t"+rs.getString("total_bill"));
            t1.append("\n-----------------------------------------------------------");
            t1.append("\n    TOTAL PAYABLE :\t"+rs.getString("total_bill"));
        }




      }catch(Exception e){
          e.printStackTrace();
      }
   }

   public static void main(String[] args){
      new GenerateBill("").setVisible(true);
   }
}
```